85th YEAR

AMERICAN GAS JOURNAL

JUNE 1944

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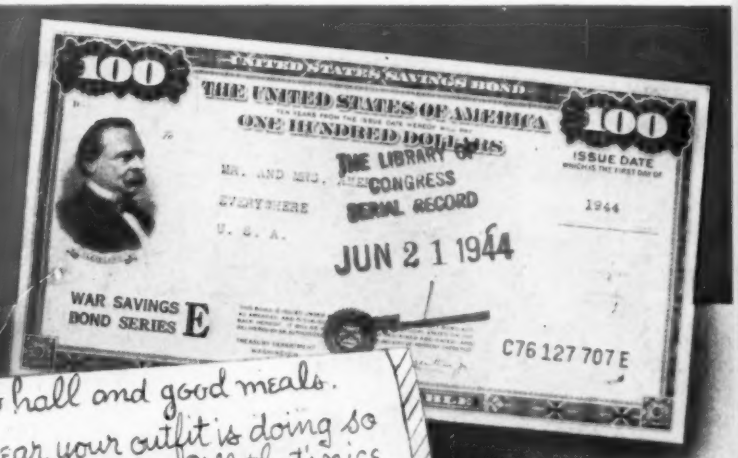
A "SEABEE" PETTY OFFICER WROTE THIS MESSAGE FROM THE PACIFIC AREA*



a fine chow hall and good meals.
Glad to hear your outfit is doing so well in War Bond sales, Bill, that's nice going! I wish every War Bond buyer could see the finest of fine equipment we have – all we need to do a good job in record time – the things you all buy that actually keep us alive out here – and the fine ships and other instruments of war. You folks pay for them, but our very existence depends upon them. Incidentally I have bought over $3000.00 worth of bonds so far and I buy a $50.00 bond each month out of my Navy pay so I feel as if I'm doing my share.
Has Bill jr. gone yet? write soon.
Love to all.
Bud

V....-MAIL

Buy one of these **BONDS TODAY**

*AN ACTUAL QUOTE FROM A LETTER WRITTEN BY A FORMER ASSOCIATE NOW SERVING IN THE PACIFIC AREA. HE'S GIVING HIS ALL...CAN YOU AFFORD TO DO ANY LESS?

V 5TH WAR LOAN

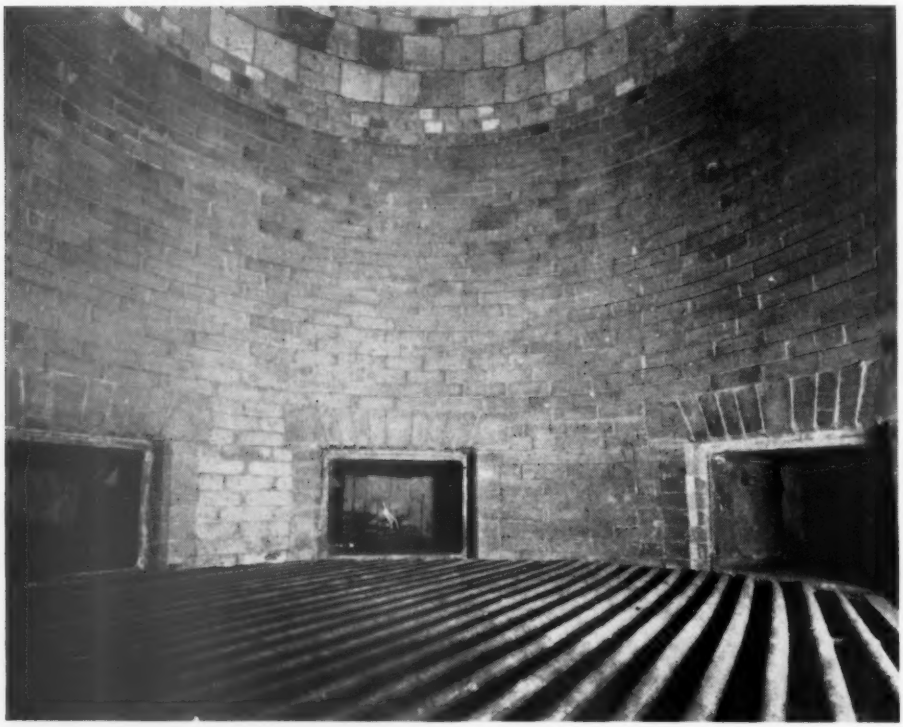
This Space Contributed by
PITTSBURGH EQUITABLE METER COMPANY
PITTSBURGH 8, PA.

ight by his Side . . . BUY MORE THAN BEFORE IN THE 5th War Loan

JUN 20 1944

CRYSTOLON GENERATOR LINING—

"pays for itself in one year"



"We believe that (with a CRYSTOLON lining) cleaning time for a gang of six men has been reduced 1½ hours per day. This saving by itself would pay for a silicon carbide lining during the course of one year's operation."

That is the report of the production superintendent of a New England gas company. The CRYSTOLON generator lining was installed in July 1939 and the brick are still in service after more than 24,380 hours of actual gas-making time.

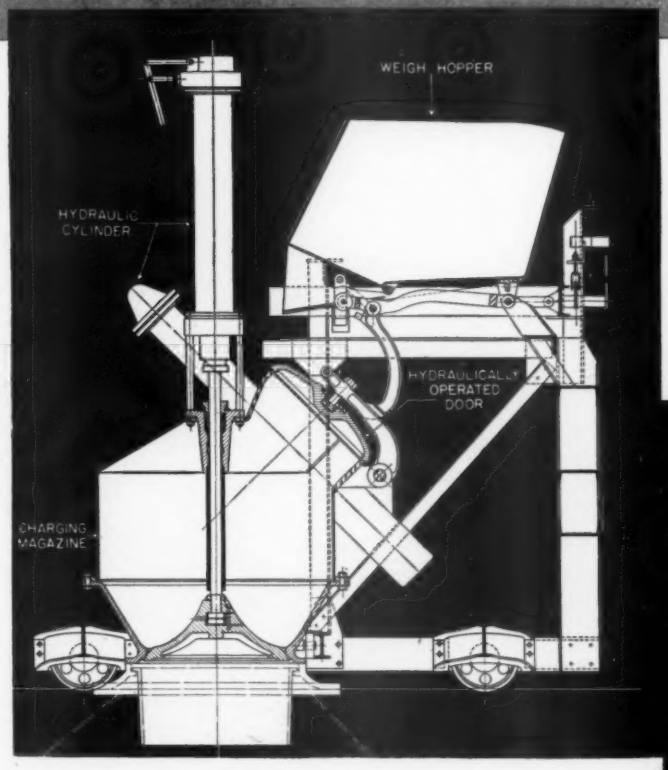
In length of service, too, a CRYSTOLON lining pays for itself.

CRYSTOLON (SiC) Brick are densely made to resist slag penetration. This means that clinkers can be easily removed leaving the bricks clean and undamaged. Because of their extreme hardness these brick have remarkable resistance to abrasion. They are chemically stable, physically strong and will not spall at elevated temperatures.

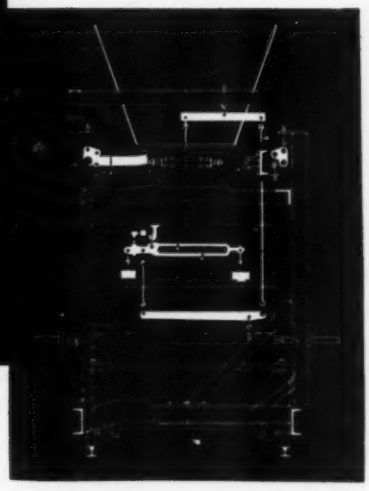
NORTON COMPANY – Worcester 6, Mass.

Norton Longer Lasting Refractories

SEMET-SOLVAY *Automatic* CHARGING MACHINE



INCREASES CAPACITY *Saves Labor*



At least ten per cent increase in capacity of your water gas machine can be obtained by the addition of a Semet-Solvay Automatic Charging Machine. Part of the increase is obtained by eliminating shut-downs for charging, part from the added efficiency of a fuel bed of constant depth.

The charger refuels the generator once every cycle during the back-run period. Fuel is accurately weighed by a built-in scale and is uniformly distributed by a hydraulically-controlled spreader. A clamping device gives a gas-tight closure between charger and generator. Seating of the doors is cushioned by the hydraulic cylinders.

The Semet-Solvay Automatic Charging Machine is built for use with any make of water gas or blue gas machine. Automatic charging is not recommended however when the fuel used is bituminous coal. If you operate on coke or anthracite coal, why not write us for further information and a list of satisfied users.

SEMET-SOLVAY ENGINEERING CORPORATION

40 Rector Street — **New York, N. Y.**

AMERICAN GAS JOURNAL, June, 1944. Vol. 160, No. 6. Published monthly by American Gas Journal, Inc., at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial offices at 53 Park Place, New York 7, N. Y. Entered as second-class matter, October 7, 1928, at the post office at East Stroudsburg, Pa., under the Act of March 3, 1879. Printed in U. S. A.

Still another step in
Post-war *action*
~~planning~~

MILLIONS

THE SATURDAY EVENING POST

"I have two refrigerators, and I wish they were both Servels"

says Margaret Speaks — famous soprano

Miss Speaks has a Servel in her country home — a mechanical refrigerator in town. So she has a better chance than most people to compare the two kinds. She says, "My Servel never makes a noise, never gives any trouble. I hardly know it's there." That's because Servel, the Gas Refrigerator, has no moving parts in its freezing system to wear out or become noisy.

Two million people own Servels today, and a lot of others tell us they'd like to. But we're 100 per cent on war work — and the few refrigerators we have made are for the Army and Navy. After the war we expect to make more Gas Refrigerators than ever — and even more attractive ones! Meanwhile, Uncle Sam offers you a fine way to save up. Buy Bonds.

Another coming attraction will be the new Servel All-Year Gas Air Conditioning System. It will heat homes in Winter, cool them in Summer, and keep perfect humidity the year round, all with one simple unit. We had these systems perfected before the war, and hundreds of them are now on test in homes. The families who have them are enthusiastic!

Your Gas Company will announce all new Servel products, just announced the Gas Refrigerator that "stays silent and lasts longer" plan to modernize your home after the war, there's nothing in thinking about it now. Your Gas Company will be glad to help

OF MESSAGES IN '44

to sell Gas Refrigeration after the war!

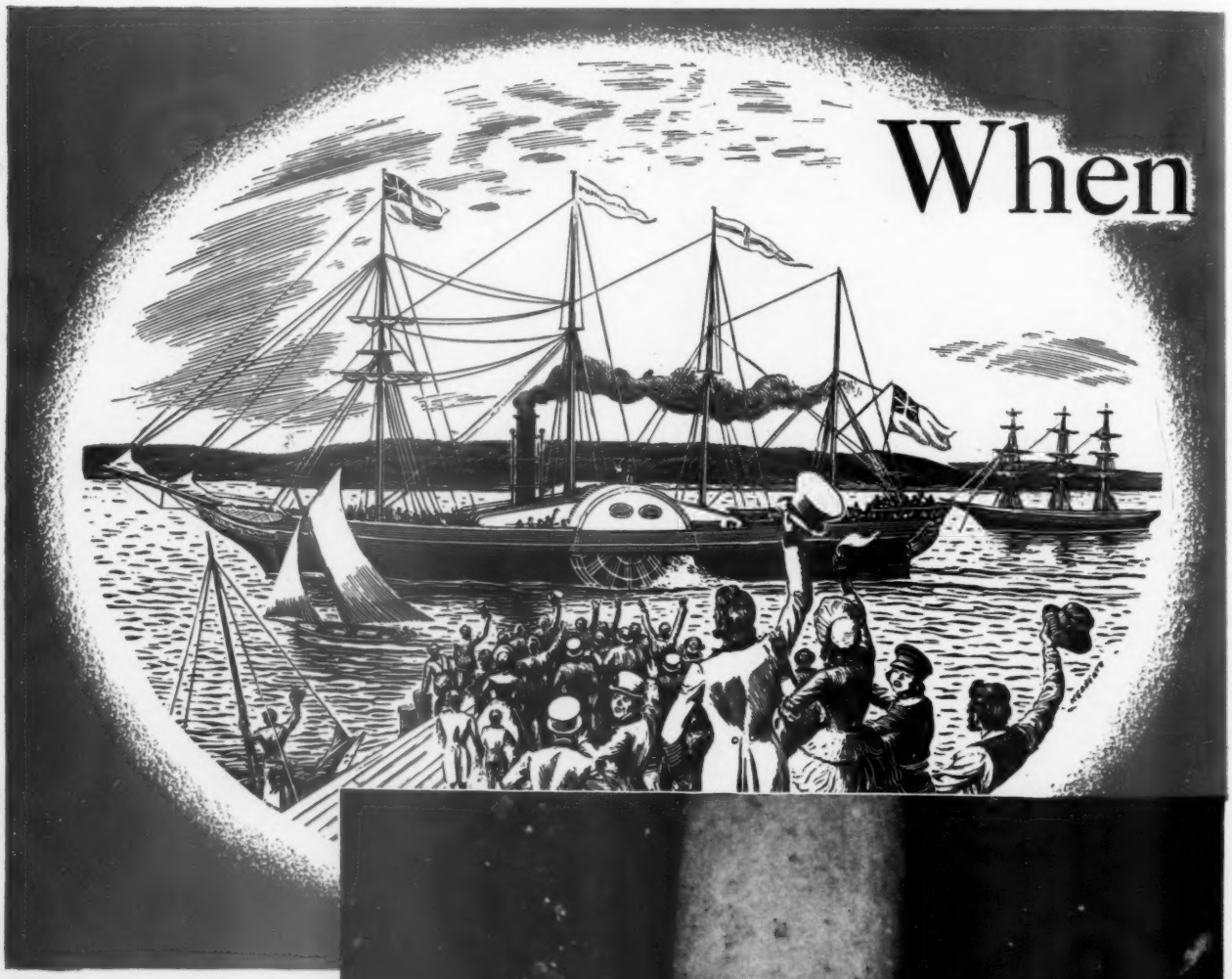
7 Top magazines with 20 million circulation carry new advertising campaign to your customers

THIS YEAR, Servel will knock on the doors of millions of families—your customers—to help pave the way for Gas Refrigerator sales after the war. Through seven of the country's leading magazines, over 65 million messages will be delivered right into the homes of these families.

Servel is telling the most powerful story that can be told for Gas Refrigeration. It's the *performance story* of the *only* automatic refrigerator with no moving parts in its freezing system. And it's being told in the type of advertisement that has definitely proved its effectiveness.

This new advertising campaign is a sales-building, good will campaign for *you* and the Gas Industry! Each advertisement points out that you, the local Gas Company, have always been Servel's headquarters. It invites customers to stop in and see you for help in planning and modernizing homes. In short, this new advertising campaign is another *big* step in helping you put your post-war plans into action, now!

Servel, Inc.



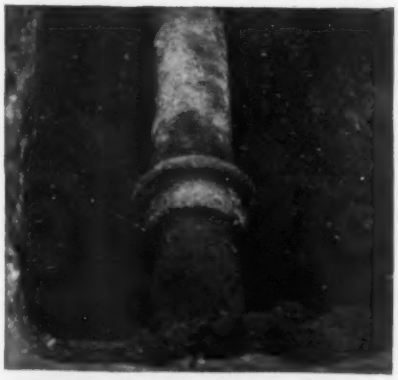
When the steamship Great Western *arrived in New York harbor from Bristol, England, more than a century ago, establishing steam navigation across the Atlantic, this cast iron water main began its long service to the citizens of St. Louis. Unretouched photograph at right show a section of this old main uncovered for inspection.*

St. Louis, Mo., installed this cast iron water main more than a century ago. Twenty years later it was taken up and removed to its present location where it has been in service ever since.

the first steamship crossed the Atlantic-

St. Louis laid a cast iron main which is still in SERVICE . . .

Charleston, S. C. This cast iron main is still functioning after 106 years of continuous service.



Lynchburg, Va. This 115-year-old main, still in service, is the second-oldest cast iron water main in America.

THE late Justice Holmes once said that "a page of history is worth a volume of logic." In this advertisement are shown unretouched photographs of cast iron pipe, in service in the ground, temporarily uncovered for inspection, which have a history of 100 years or more of continuous service.

Why are pipe materials other than cast iron generally referred to as substitutes for cast iron? Because cast iron pipe is the *standard* as well as the *only* material for underground mains with a history of long life—a century or more in this country—two centuries or more, abroad.

But, far from resting their case on history alone, the makers of cast iron pipe can point to outstanding accomplishments in product development. The production of cast iron pipe today is on a scientific basis with laboratory controls at every step from raw materials to finished pipe. So, whether you are laying cast iron pipe now, or specifying it now for post-war construction, you can be sure it will not only live up to its history, but improve on it.

CAST IRON

Cast Iron Pipe Research Association
Thomas F. Wolfe, Research Engineer, Peoples Gas Building, Chicago 3

CAST IRON PIPE
SERVES FOR CENTURIES

. . . experience devoted now to war production, but ready (after Victory) to make new, even finer PAYNE Furnaces . . . featuring ZONE-CONDITIONING, post-war successor to old-fashioned central heating.

The 141 members of the PAYNE Service Club★, honored recently at a Company ceremony, have attained seniority in the PAYNE-HEAT "family" as follows:

NUMBER OF MEN AND WOMEN, CLASSIFIED BY YEARS OF SERVICE

2	25 years or more	16	10 to 15 years
7	20 years or more	55	5 to 10 years
15	15 to 20 years	46	2 to 5 years

★Not including eligibles among our more than 100 associates now on leave to the armed forces, whose time, during military service, is being credited towards Service Club membership.

WHAT THIS MEANS TO YOU

TO YOU, as an American, it means *experienced skill and teamwork* in the production of vital weapons and war supplies, PAYNEHEAT'S sole activity for more than two years.

TO YOU, as a seller or buyer of gas heating appliances, it means *technical knowledge fortified by loyalty and stability* . . . assurance that PAYNEHEAT will maintain its leadership in design, quality and performance.

GAS FUEL HAS EVERYTHING

PAYNEHEAT
30 YEARS OF LEADERSHIP

Payne FURNACE & SUPPLY CO., INC. ★ BEVERLY HILLS, CALIFORNIA

VOLUME 160
NUMBER 6

AMERICAN GAS JOURNAL

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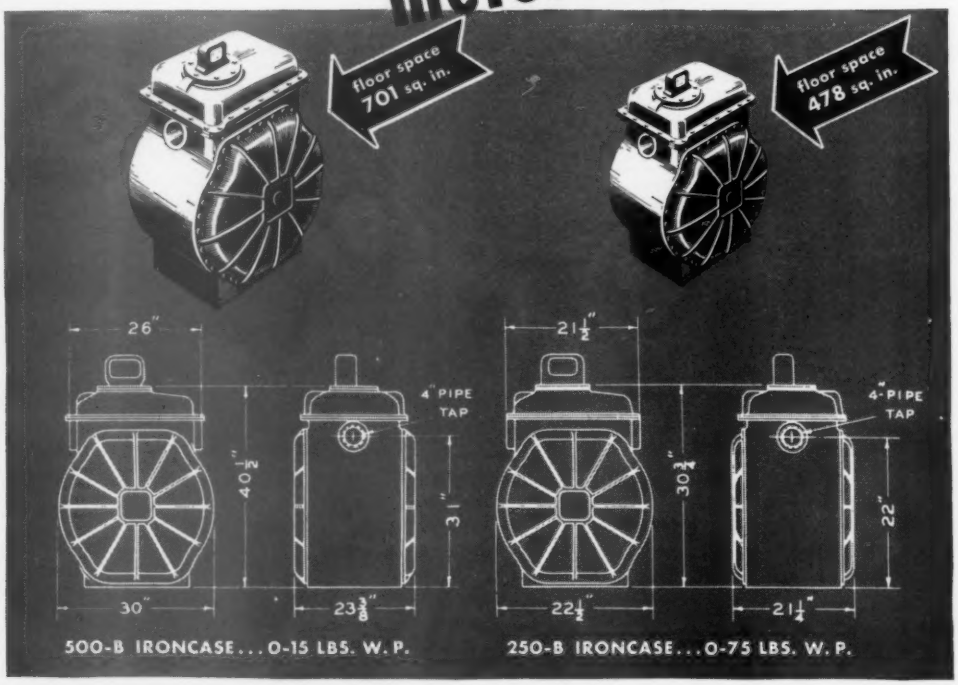


● SPACE-SAVING equipment is welcomed by every engineer or superintendent who has tried to allot floor space to large-capacity meters in a plant layout that refuses to stretch its dimensions.

Ironcase meter compactness therefore becomes prized as never before.

Note the blueprinted space requirements of these well-designed Low Pressure 500-B and 250-B meters . . .

FULL CAPACITY. Yet these meters attain full rated low-pressure capacity . . . 4800 cubic feet per hour for the 500-B at ½" water differential, and 10,000 cubic feet at 2" differential; for the 250-B model, 3000 and 6000 cubic feet at the respective differentials.

Ruggedness and insurance of accurate gas measurement are designed right into the Ironcase meter. Consider the advantages of these features . . . full bellows diaphragms . . . provision for correct lubrication of bearings . . . the one-piece body. (Avoidance of vulnerable machined joints or gaskets between internal parts makes internal leakage impossible.) Metric care in every phase of design and construction has raised the Ironcase meter to highest known industrial standards.

Ironcase catalog EG-40 covers this subject of maintained meter accuracy and low operating cost in detail.

B-1839

AMERICAN METER COMPANY
INCORPORATED ESTABLISHED 1836
METRIC METAL WORKS • ERIE 2, PA.

JUNE 1944

AMERICAN GAS JOURNAL

VOLUME 160 NO. 6

Postwar Insured Gas Service

By

George Wehrle

Superintendent Gas Distribution
Public Service Company of Colorado

George Wehrle

TO HAVE public acceptance, an article, commodity or service must be suitable for the needs and wants of the public, it must be in the public mind, and its cost must be reasonable in comparison with competitive things. Most things may be divided into two classes: those which are desirable but not necessary, and those which are essential. We may illustrate these by using perfume in the first instance and fuel in the second. Perfume is desirable, but, if there were no such thing as perfume, would the world suffer greatly? Perhaps not. Perfume has public acceptance without any doubt, but is non-essential. Fuel is a necessity for even in torrid climates it must be used if one wishes to eat cooked food. Undoubtedly mankind could exist without cooked food, but he would find it difficult to exist anywhere on earth, except the tropics, without heat derived from the burning of fuel; therefore, fuel also has public acceptance but is essential.

Five Points of Acceptance

Public acceptance is dependent upon five things: (1) availability, (2) adaptability, (3) publicity, (4) serviceability, and (5) cost. Availability, of course, must be first because it would be impossible and impractical to build up public acceptance of anything that could not be delivered, or used if it were, such as automobiles in Greenland. A thing to be used must be adaptable to those who may desire it or need it. Why should the eskimos buy automobiles when they have no highways to use them on? Then, a thing to have public acceptance must be in the people's minds. They must hear about it and know about it. That's where the advertising man comes in. Serviceability, that's what counts. Remember when we had to go out to the woodpile on a cold winter morning for fuel to cook breakfast with? We didn't use any more fuel than we had to then and the house was never really comfortably warm. Now, gas fuel is piped right into the house and all we do is turn on a valve and the food starts cooking. We don't even have to go to that much effort for hot water and room heating for the automatic thermostat does all of the work for us. We don't care so much about the cost of a thing if we really want it and if it serves a purpose for us better than something else. If we did, we would still be using candles for light and chopping wood for fuel—nobody would be driving automobiles and we wouldn't have radios. So then cost is not the most important adjunct toward customer acceptance.

"No industry in history, with the possible exception of the automobile, has made more progress in design and construction of their product than the gas appliance manufacturers have done in the past decade. The modern range, furnace, water heater and refrigerator are about the last word in efficient design and usefulness of appliances. If the people do not use them it is largely because they do not know enough about them or that there is a fault in our service."

We have tried to cover the general factors involved in this thing we call public acceptance so we would know what we were working with or toward. After all, public acceptance is a tool, or a means toward an end. The prime thing is the selling of a commodity or service. If the public doesn't accept it we're licked. Whatever we sell, it must be kept in the public mind and we must give service, so publicity and serviceability are the important attributes of selling. Now, let's take a look at our commodity—gas.

Gas An Essential Commodity

Gas is a fuel—or might we say, is the ideal fuel—and therefore it is an essential commodity. It is true mankind could get along without gas, but the world would then be a queer

place. Gas is, however, a competitive fuel. The gas industry has done a swell job in popularizing gas and it does have public acceptance now because it is the best and most adaptable fuel in the world—no exceptions—but what can we do to increase public acceptance, for there are still people in our country where gas is available at reasonably competitive rates who use other fuels for their domestic purposes. We can do more advertising and give better service. A few years ago our answer would have been, "Design better appliances," but no industry in history, with the possible exception of the automobile, has made more progress in design and construction of their product than the gas appliance manufacturers have done in the past decade. The modern range, furnace, water heater and refrigerator are about the last word in efficient design and usefulness of appliances. If people do not use them it is largely because they do not know enough about them or that there is a fault in our service.

Our publicity men have done a lot to promote public acceptance of gas with their local and national advertising and we know they are well aware that to be effective good advertising must be continuous, so we are willing to leave this part of the job to the publicity department and devote ourselves to something that we know more about. Service consists in taking care of the customers' needs and wants. It starts when the first contact is made with the application clerk and should continue as long as the customer uses gas. It doesn't simply mean setting the meter and answering requests or demands. We must go out of our way to keep the customer safe and satisfied. If we go about this right, we can sell most of our customers all of their fuel requirements instead of only a part of them and we can make of these satisfied customers an influencing factor among their friends to do the same. And this in itself is a healthy program for the gas man to follow in the postwar era.

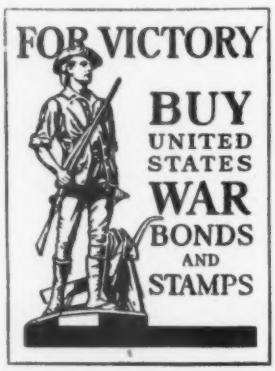
The needs of a customer regarding gas service are not always known to him and frequently poor service may result from our neglect to anticipate these needs before poor service results. We, the gas companies, know all about the appliances we sell and the service which is rendered thereby, but the customer usually knows only what we tell him about them and if our instructions are faulty or inadequate we cannot hope to maintain or promote the best customer acceptance for gas. In this article it would seem superfluous to go into the many ramifications of gas service which are so obviously fundamental to the growth and development of our business, such as friendliness on the part of every employee, honesty, and keeping faith with our customers, all of which we must do if we hope to thrive, but we will devote our theme to a factor of service which is sometimes neglected—insurance.

Insure Gas Service

To best promote public acceptance of gas we must insure gas service to our customers. Strange as it may seem, we have not always done this but have been content in many instances to rock along with a policy of smugness and self-satisfaction while charging the customer separately for something that should have been included in his gas bill. Some of our present customers still remember the cold days when low gas pressure was the rule rather than the exception and when a kettle of boiling water was the universally prescribed remedy for a frozen gas supply. What did these customers expect, 100% service? You bet they did, even then, but they didn't get it. Today most of us pride ourselves on rendering at least 90% service, why not the full 100%? Let that be our goal and we will have public acceptance—and how.

Let us get back to our theme of insured gas service. It should begin when the customer first signs the application for a meter. Regardless of where he buys his appliance, whether from us, a local dealer or a mail order house, he should receive the same brand of attention. Let's not get too far ahead of ourselves for a part of good service is to maintain service standards and we must insist that the appliances we serve meet approved standards. The first requirement in this is the Seal of approval of the American Gas Association Laboratory. It is our duty to satisfy ourselves that the customers' appliances are adequate to perform the service required, are properly connected, that proper ventilation is assured, and that the burners and other appurtenances are in proper adjustment. Then our educational service begins. The customers are given implicit instructions in the operation of the appliances and instruction tags and/or cards are conspicuously and permanently attached. He is informed and assured that our service is available at his call any hour of the day and night, 365 days a year—and this does make an impression for it didn't used to be that way. And then as time goes on in certain features of our service an inspector or a home service director shows up. He or she looks over all of the appliances, sees that they are in proper adjustment, that all controls are functioning as they should, and if they aren't takes the necessary steps to make them perform. Much of this service is gratuitous, but in cases where worn or broken parts must be replaced a nominal charge is made. The customer doesn't mind paying such charges if he is confident that he gets value received for whatever the cost may be. He is aware that this is a preventive measure, a part of an insured service, and he feels much as he does when the family doctor prescribes for physical disorders, knowing that an ounce of prevention is worth a pound of cure.

Confidence in the gas utility is a long step forward. If we build up the feeling among our customers that we are interested in his convenience and comfort, that we are equipped to provide 100% gas service, which includes the anticipation of certain difficulties, and that his faith in us is not misplaced, then we are providing insured gas service and with this our gas service will have the best public acceptance possible to maintain, and we don't have to worry about holding our present business or of not getting our share of new business. Why not make insured gas service a feature of our postwar plans, for nothing we might do will pay higher dividends.



Natural Gas Division, A. G. A. Holds Spring Conference

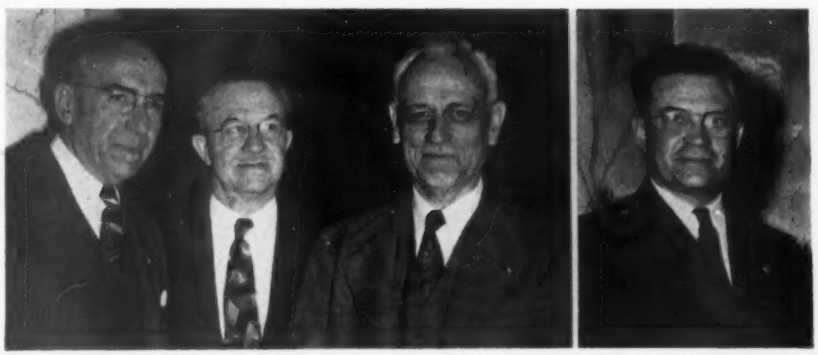
MEN in the natural gas industry, attending the Natural Gas Spring Conference, held at French Lick, Ind., May 11-13, under the direction of the Natural Gas Department of the American Gas Association participated in a very constructive and varied program.

J. French Robinson, Chairman of the Natural Gas Department presided at all of the sessions.

After a brief talk by Major Alexander Forward, Managing Director of A.G.A., and greetings to the delegates by Ernest R. Acker, President of A.G.A., the chairman introduced R. E. Wertz, past chairman, Natural Gas Section, and President of Amarillo Gas Co., Amarillo, Texas. The subject of his paper was "The Freedom of Natural Gas in Interstate Commerce," and is included in this issue.

Next was the address of Chairman J. French Robinson, which appears elsewhere in this issue of the JOURNAL.

"Natural Gas Research—Its Importance and Possibilities," was the subject of a paper by Dr. R. R. Sayers, Director U. S. Bureau of Mines, Washington, D. C. Dr. Sayers was unable to be present and his paper was read by Kenneth Eilerts, Bureau of Mines, Bartlesville, Okla. It dwelt largely with natural gas research work of the Bureau of Mines.



Left to right: T. J. Strickler, Vice-Pres. and Gen. Mgr. Kansas City Gas & Electric Co.; F. X. Mettinet, Vice-Pres. in charge of sales, The Peoples Gas Light & Coke Co., Chicago; R. G. Griswold, President Electric Advisers Inc., New York; Frank D. Howell, Brantford, Ontario, President Canadian Gas Association.

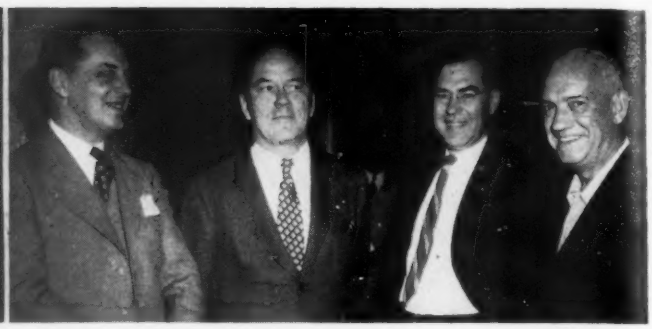
"The Story of the McKamie Gas Cleaning Company," was title of a paper read by C. W. Cooper, vice-president, Consolidated Natural Gas Co., New York. It described the apparatus devised to remove a very high sulphur content of sour gas in a part of Arkansas, and making the gas safe for domestic consumption.

The subject of paper read by Dr. Frank H. Dotterweich, assistant professor, Texas College of Arts and Industries, Kingsville, Texas, was "Natural Gas Cycling and its Significance to the Natural Gas Industry."

"Only a few short years ago," he said "when improved equipment and advanced drilling technique allowed the drill bit to probe deeper into the sedimentary section of the Earth's crust, there began to result from time to time wells which produced a high gravity, light colored to white liquid and a high ratio of natural gas. These discoveries, sometimes referred to in the field as 'gasoline wells,' were generally termed distillate producers. Their inclusion in categories established by state commissions for purposes of proration and other regulations required that they be classified as either gas wells or oil wells. This classification was usually accomplished by comparison with an arbitrarily established gas-oil ratio. In the absence

Left to right: Chester L. May, Lone Star Gas Company, Dallas, Texas; D. A. Hulcy, Lone Star Gas Co., Dallas; B. C. Adams, Jr., Petroleum Administration for War, Washington, D. C.; Dr. Frank H. Dotterweich, Texas College of Arts and Industries, Kingsville, Texas; Frank S. Kelly, Jr., Arkansas-Louisiana Gas Company, Shreveport, president, Southern Gas Association.

Left to right: R. H. Hargrove, United Gas Pipe Line Company, Shreveport, La.; Floyd C. Brown, Natural Gas Pipe Line Company of America; Robert W. Hendee, Colorado Interstate Gas Co., Colorado Springs, Colo.



Left to right: I. K. Peck, Binghamton Gas Company, Binghamton, N. Y., Walter C. Beckjord, Columbia Gas and Electric Corporation, New York; A. H. Stack, The Tampa Gas Company, Tampa, Florida; C. E. Bennett, The Manufacturers Light and Heat Company, Pittsburgh.

of this yardstick, they were apt to be termed gas wells only when distillate recovery was incidental to the production of marketed gas, and far too many were produced as oil wells, exhausting tremendous volumes of gas to the atmosphere.

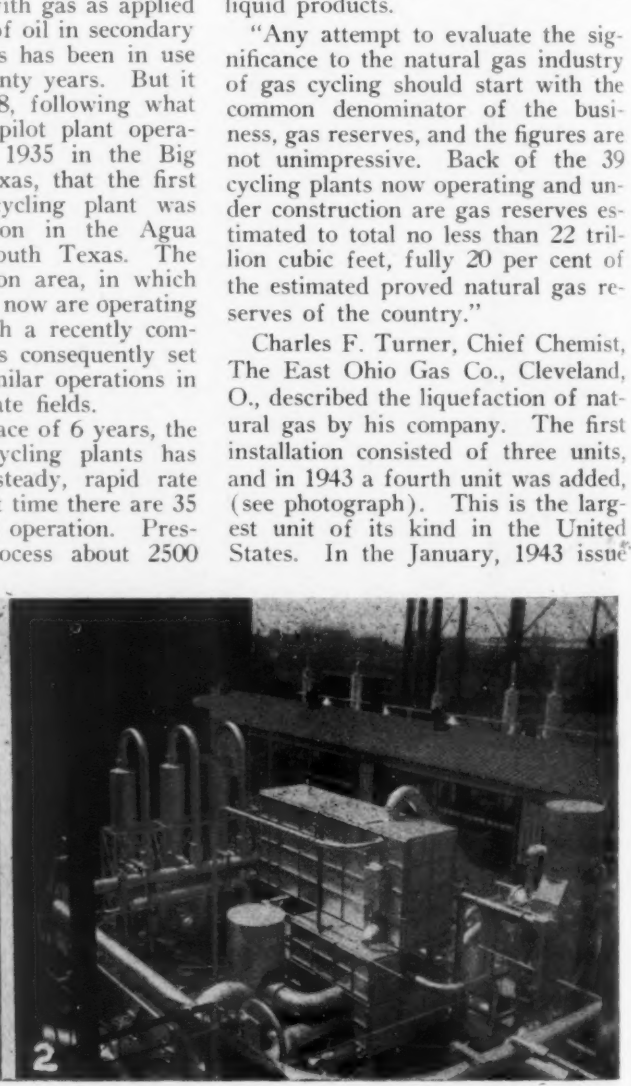
"The frequency of occurrence of discoveries of the gas-condensate type in the area embracing south Arkansas, Louisiana, and the coastal plain of Texas, increased to 36% of all discoveries during 1943 and it is to be expected that this proportion will increase with continuation of deep exploratory operations. There are at present more than 140 known gas-condensate fields in the country. While most of these fields are in the Gulf-South, there are several in California, at least two in the Rocky Mountain region, and fields evidencing retrograde condensation have been found in the Oriskany horizon of the Appalachian area. The Turner Valley Field of Canada is another example.

"Repressuring with gas as applied to the production of oil in secondary recovery operations has been in use for more than twenty years. But it was not until 1938, following what might be termed pilot plant operations initiated in 1935 in the Big Lake Field of Texas, that the first commercial gas cycling plant was placed in operation in the Agua Dulce Field in south Texas. The Agua-Dulce-Stratton area, in which four cycling plants now are operating in conjunction with a recently completed refinery, has consequently set the pattern for similar operations in other gas-condensate fields.

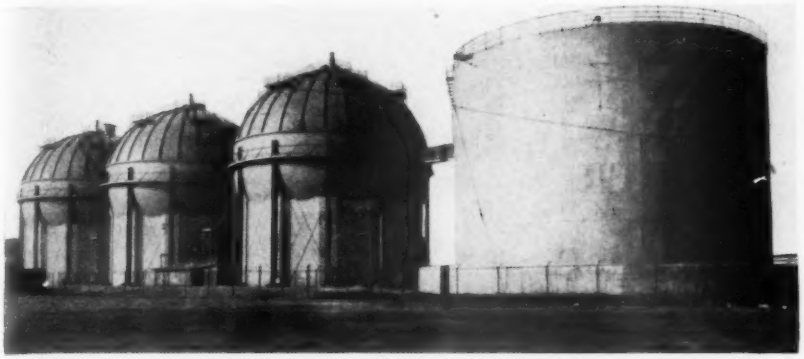
"In the brief space of 6 years, the construction of cycling plants has progressed at a steady, rapid rate until at the present time there are 35 such plants in full operation. Present operations process about 2500 million cubic feet daily of gas and recover some 70,000 barrels daily of liquid products.

"Any attempt to evaluate the significance to the natural gas industry of gas cycling should start with the common denominator of the business, gas reserves, and the figures are not unimpressive. Back of the 39 cycling plants now operating and under construction are gas reserves estimated to total no less than 22 trillion cubic feet, fully 20 per cent of the estimated proved natural gas reserves of the country."

Charles F. Turner, Chief Chemist, The East Ohio Gas Co., Cleveland, O., described the liquefaction of natural gas by his company. The first installation consisted of three units, and in 1943 a fourth unit was added, (see photograph). This is the largest unit of its kind in the United States. In the January, 1943 issue



The storage plant of East Ohio Gas Company: (1) General view from platform of Machinery building showing vertical Ethylene Storage Tanks, Heat Exchangers and cooling equipment and Sphere No. 1 in the background. (2) A view from the platform of Sphere No. 3 and shows—Left: The 3 Regasifiers with Water Cooling Tower in background. Center: Primary Liquid Tank, upper box containing the 2 main cooling units and lower box containing nitrogen tank and heat exchangers. Right: The vertical Ammonia-Ethylene Heat Exchanger. Background: Compressor and Machinery Building with Maxim Silencers extending above roof.



The three concentric storage spheres of the East Ohio Gas Company and the new torso-segmental tank. The inner spheres are 57 feet in diameter, the outer one in each case being 63'. The space between is filled with cork insulation. The tank-shaped holder consists of two vertical cylinders, the inner having a diameter of 70 feet and is 43 feet high. The 3 foot space between cylinders is filled with rock wool insulation. Cubical content of each sphere, 97,000 cu. ft., having an equivalent of 50 million cu. ft. of natural gas at normal pressures and temperatures. The storage holder contains the equivalent of 90 million cu. ft. of natural gas. Concrete dikes surround the holders.

of the JOURNAL was printed a complete description of its operation.

Captain E. M. Borger, President, The Peoples Natural Gas Co., Pittsburgh, Pa., who recently returned to Pittsburgh after a year of front line duty in Egypt, Tunisia and Italy, presented the views of "A Gas Man at the Front in Africa and Italy." He illustrated his talk with moving pictures. The movie gave the delegates a picture of what our army is doing in these far off lands.

A symposium on underground storage of natural gas followed, and, for the Appalachian Area, the following presented papers:

F. H. Finn, Chief Geologist, The Peoples Natural Gas Company, Pittsburgh, Pennsylvania.

(In collaboration with J. B. Corrin, Hope Natural Gas Company and J. J. Schmidt, The East Ohio Gas Company.)

Geo. S. Young, Vice President, Columbia Engineering Corporation, New York.

J. H. Isherwood, Vice President and General Manager, North Penn Gas Company, Port Alleghany, Pennsylvania.

J. R. Reeves, General Superintendent, Natural Gas, Republic Light, Heat & Power Company, Inc., Buffalo, New York.

John H. Newlon, Geologist and Superintendent of Production, The Equitable Gas Company, Pittsburgh, Pa.

Underground storage in other areas was described by the following:

M. L. Fort, Supt. Compressor Plant and Pipe Line Operations, Pacific Lighting Corporation, Los Angeles, California..

C. W. Studt, Production Engineer, Union Gas System, Inc., Independence, Kansas.

W. R. Kubista, Engineer, Oklahoma Natural Gas Company, Tulsa, Oklahoma.

Frank D. Howell, General Superintendent, Dominion Natural Gas Company, Ltd., Brantford, Ontario, Canada; President, Canadian Gas Association.

Edward M. Borger

E. G. Dahlgren, Technical Secretary, Interstate Oil Compact Commission, Oklahoma City, Okla., presented a summary of the papers.

The Saturday morning session was devoted to a symposium on long distance transmission of natural gas. The leader was Robert W. Hendee, President, Colorado Interstate Gas Co., Colorado Springs, Colo.

The subject of pipelines was covered by:

R. G. Strong, Chief Engineer, Natural Gas Pipeline Company of America, Chicago, Ill.

D. K. Stephens, Transmission-Pipeline Superintendent, Panhandle Eastern Pipe Line Company, Kansas City, Missouri.

John A. Clark, Chief Engineer, Hope Natural Gas Company, Clarksburg. (In collaboration with George W. McKinley.)

E. R. Cunningham, General Superintendent, Main Pipe Lines, United Gas Pipe Line Company, Shreveport, Louisiana. (Illustrated with Movies)

A. W. Sommerville, Assistant to the President and Manager, Mississippi River Fuel Corporation, St. Louis, Missouri.

Compressor Stations by:

M. C. Madsen, Chief Engineer, Northern Natural Gas Company, Omaha, Nabraska.

G. F. Brunston, Chief Engineer, Colorado Interstate Gas Company, Colorado Springs, Colorado.

Dehydration Plant by:

T. S. Bacon, Research Engineer, Lone Star Gas Company, Dallas, Texas.

H. J. Carson, Vice President, Northern Natural Gas Company, Omaha, Nebraska.

W. F. Fulton, United Gas Pipe Line Company, Shreveport, Louisiana.

E. G. Hammerschmidt, Chief Chemist, Texoma Natural Gas Company, Fritch, Texas.

All the papers in both symposiums will be printed by American Gas Association for distribution to all desiring copies.

Plans of the gas industry's national advertising program for 1944-45 will be described in a promotion piece which is scheduled to be distributed to the gas industry on or about June 15th.

Left to right: Marion L. Fort, Pacific Lighting Corp., Los Angeles; A. F. Bridge, Southern Counties Gas Company, Los Angeles; Wililam Moeller, Jr., Southern California Gas Co., Los Angeles.

Natural Gas, The Natural Gas Industry,—and Wars

By

J. French Robinson

Chairman, Natural Gas Division
President The East Ohio Gas Company
Cleveland, Ohio

IN BEGINNING this high council of the Natural Gas Industry, I do not think it is necessary for us to remind ourselves of the explosively critical nature of the problems which confront us in these stressful times. Instead of wasting time in regret that things are not going well with the world, let us rather rejoice that we have the strength and the will to find our place and do our part.

We all know that for the first time in its history our industry, in common with all industry and with all phases of life in America, is feeling the impact of forces entirely outside of, and frequently hostile to, the principles which normally bear upon the successful operation of a business. Some of these unsettling forces were released upon us through the war—but not all of them. We know, also, that our work now and for a long time to come will be not only the operation of our industry, but an active participation in the recovery of the American economy, as well.

It is logical, therefore, that we first examine ourselves and make sure that our own affairs are in order, that our industry is in the best possible condition and at maximum strength to meet these added responsibilities.

That we will continue to give our utmost co-operation to the war effort can go without saying. But how do we square with the determination to emerge from the war, and come out of it as a successful nation?

First, let us underscore the fact that we have a successful industry well organized for *any* effort. That is not a boast. It is only a practical, useful appraisal.

In addition, we have gained, through war, experience and knowledge in organizing the entire Petroleum Industry into a smoothly working, efficient, and highly responsive mechanism. The temporary co-ordination of oil and gas was the voluntary and, therefore, effective response to an emergency. It was logical and necessary against that background. Its lessons will never be unlearned, nor will the volunteering willingness which energized it ever be lost.

We delegated authority but we did not surrender control. That principle is the heart of the American system. Believe me, we are not taking our finger off its pulse! Industrial integration and co-ordination will function as long as they are voluntary—but no longer . . .

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The relating of natural gas reserves to distant points of utilization, is an engineering and an economical problem of the first magnitude, as indeed is all long distance pipe line transmission. Coupled with it are the problems of large volume storage. But with them all, these newer development and transmission problems have not only geographical but economic and political complexities as well. These seem to multiply in geometrical ratio to the distance. More and more people want natural gas—and they want more of it. They look to us for it and we can get it for them with anything like a free American economy.

I say a "free American economy," but nobody tries to look away from the fact that we are part of a nation-wide political and economic picture. We all recognize that there is a growing inter-dependence, and a political inter-dependence, between all the parts of our economy. It is a complicated picture and not at all finished. It is very doubtful if more than a bare start has been made on it. More than that, even this doesn't look any too good at times. As a matter of fact, it is bad, and we know it. It is up to us to change all that and make it turn out well. We will.

However, I believe it is necessary for us to shed the last bit of illusion any of us may have had that the present crisis in our country's affairs will somehow pass without determined and directed action to preserve the American system.

Everything will *not* come out all right, sooner or later, unless we make it do so, and make it do so soon. "Later"—is too late. We can make up our minds to that. If we are challenged to define what we mean by the "American system"—the answer is short, sharp, and decisive. We mean representative self-government as guaranteed by our Constitution.

We no longer face a crisis — we are *in* one. We are not getting out of it at all. We are getting in deeper and deeper every day. To deny that, or to ignore it, is to be false to our trust. We do not intend to be . . .

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In estimating the position of our industry and of ourselves in the war effort, and in the domestic crisis into which we have allowed ourselves to slip — and be pushed — I want particularly to disclaim any war braggadocio. It sounds bad because it *is* bad. Results in wartime are taken for granted.

We must be interested only in the *reasons* why our industry was able to deliver consistently competent performance in this greatest of all tests. We must examine the results by matching them with the methods and the means by which they were accomplished. The nub of the whole war performance matter, is to make sure that we can keep on doing it, and continue *afterward* to do it. These obligations are possible only by retaining the means and principles which we have found make performance possible.

So much for the reasons which compel us now to consider our industry as very much more than exploration, development, production,

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From Chairman's Address, American Gas Association, Natural Gas, Spring Conference, French Lick Springs, Indiana, May 11, 1944.

storing, marketing, improvement in utilization, and keeping of books. We are looking now, gentlemen, at a situation which can spell the extinction not only of our industry but of the country which it serves. I mean just what I say, and every man here knows that what I say is true — and knows why.

We must make as few mistakes as possible. Moreover, we must resolve not to defend positions which may have been right and useful in the past but which can be replaced with better ones. . . . . .

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It is the impact of war upon our industry which calls for unusual performance on its part. But I want to lay it down flat that if war demands and receives from us the unusual in performance, so should war increase our sense of responsibility to the people themselves. It is necessary to use gas in making materials for war, just as it is necessary, God forgive us, to require of men that they die for war. But that we do not know the "why" of it, and that we do not know what the end of it is, and what the expected outcome of it may be is not to be forgiven us by the public we serve, or by the soldier we have asked to die.

He can not ask. We can. He has gone to war because we made him go —that is a price of Democracy. What are we doing with the heritage, his heritage, he left in our keeping? Will he ask for it when he gets back —if he gets back? What will he accept from us as an excuse if we haven't it for him? He rather expects us to ask the questions while we can get the answers and check to see that they are the right ones. They better had be. It is up to us now—while we can—to see that they *will* be.

You aren't supposed to think of things like that and ask questions like that in wartime. You have to get the answers when you can.

There are only three periods of a war when you *can* ask them, before a war, during a war, or afterward. I patiently—and not too patiently—submit that it is too late now to do our before-war thinking, and that our after-war thinking won't count. We have no right to bet our country on a toss-up, and if there is anything more definite than that in the record so far, it's in type so small nobody has been able to find it, let alone read it. I repeat what I said before, things will not "turn out all right" unless they're made to.

Free enterprise and constitutional self-government have been proved by the arming of America as never before in history. We will never give them up. To give them up is to give up America, and that we do not propose to do or allow to be done. We received them as a sacred trust, we shall retain them as a sacred trust, and shall pass them on to the next generation unimpaired.

The only point I wish to add is that fair, complete and willing collaboration with government does not at all impair them. Nor does the willing acceptance of reasonable government controls impair them.

It is necessary, therefore, to accept government as a factor in our industry. We all grant that. But, taking off our blinders and our rose-colored spectacles and looking at ourselves in the larger aspect of our country, upon which we rely—and which relies on us—what do we see? Without stopping here to go into the causes, we see the continuing breakdown of constitutional self-government in America—of our Democracy, in a word. A few groups, fortunately small but noisy, even go so far as to mock it. "The American way of life" is only a pretty phrase to describe what is gone, they say. But it is not a mere phrase and it is not gone, nor shall it go. Such is the resolution of Americans. Luckily we still have the original pattern. It is the Constitution. The agency of restoration, also, we have. It is our Congress which—and again luckily—has already gone to work at it most courageously. A similar courageous determination of others is in order to safeguard the constitutional guarantee of a free people and a free economy.

The natural gas industry is only one part of this drama, to be sure, but we must play the part in it that belongs to us. The name of the drama, it is not yet a tragedy, is constitutional government in America. The script is the letter and the spirit of the American Constitution—and stick to that! If some say: there is no danger to our free institutions, let us tell all such: maybe so, but we propose to *see* that there is none, and there shall be none.

And then again, if some say: hush, hush, not so loud in wartime, let our reply be: in wartime more than any other, it is our duty to be vigilant and sure that our American institutions are preserved from loss, whether through our carelessness or otherwise.

Aren't you tired of listening to specious and suspicious plans for saving the world and losing the best thing in it, which is America? I am. Speaking of illusions and of deceptions which are still deceptions even if they are on such a large scale that they are hard to see, requires a thought or two on "postwar" planning. There are plenty of pitfalls in that road, too. Plan for "postwar," surely, but sensible and patriotic Americans must first make sure that there's going to be a "postwar" period for which to plan. The Israelites, they say, wandered for 40 years in quest of the Promised Land. Moses even saw it—but wasn't allowed to get there. We are not going to stand for anything like that. . . . . .

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So, let's make up our minds as to just what kind of country we want when this war is over and the kind of country to which we want our boys to return. We must not find ourselves in the tragic position of having to avert our eyes when our boys are home again.

As companies we can function only in a Democracy. We were born into such a state and our fathers' fathers have engrained into our own very fibers the love of our nation governed by ourselves. This is what we believe and it is for us who are on the domestic firing line to have as much courage as we have conviction.

The same lines of reasoning apply to war policies abroad—to everything short of military action in which we are engaged.

There is literally almost nothing, anywhere in the world, which is *not* part of the gas business, and of which the gas business is not part. This is because for the time being everything is war or wars, and how long, or how many, or where, we do not know. How then can we talk of postwar?

The duration, or possible permanence of a militarized economy, we must resolve to have answered for us and only Congress can arrive at the answers.

It is not our liberty and our American institutions that are on trial, for they have been justified. That they are in hazard is not questioned. It is the Americans' capacity for retaining them that is on trial.

So, gentlemen, I do not apologize at all for the extent of the territory I have tried to cover here, for it is all gas business—now. I *am* sorry that the picture of our future is a confused one. We can assure ourselves that there is daylight ahead of us and that we can see it.

Our course may be a difficult one to follow, but it is clear as crystal in the principles by which and by which alone we can be guided. They are: our country first, and vigilance, with courage, in defending it. We believe in Democracy—and we intend to keep it.

The Freedom of Natural Gas in Interstate Commerce

By

R. E. Wertz,

Past Chairman
Natural Gas Section,
American Gas Association
President, Amarillo Gas Company,
Amarillo, Texas

R. E. Wertz

FOR THOSE OF US who are old enough to remember, the history of our natural gas industry may be divided roughly into two general periods. The first period, which ended in the late twenties, might be characterized as the stay-at-home period of local markets; and the second period, which has continued down to date, might be characterized as the going-abroad period of nation-wide markets. It appears that we are about to enter a third period which may have serious and far-reaching effects upon future markets for natural gas, and that possibility is the subject of my brief remarks today. The subject presents a problem, or a series of problems, which will challenge the best talents and efforts of our new Natural Gas Department and its executives.

Not much need be said here about the period of local consumption. The natural gas industry in those days reminded one of a big adolescent boy wandering about in his own backyard,—full of strength, energy and promise, but with no place to go. One thing did happen in those days, however, which should be underlined in the light of what is to follow. *The United States Supreme Court held in effect that no state could enact a valid statute prohibiting the export of its natural gas production to another state, because such a statute constituted an interference with the free movement of interstate commerce.*

In the late twenties, the big adolescent boy with the boundless strength and energy commenced to go places, because he had at last solved the problem of constructing long-distance pipelines that would withstand high pressure. Most of the first long-distance pipelines to be constructed originated in the Texas Panhandle Field. Among them were the Colorado Interstate line to Denver; the Cities Service line to Kansas City; the Natural Gas Pipeline Company's line to Chicago; the Panhandle Eastern's line to Detroit; and the Northern Natural's line to Minneapolis and St. Paul. Many other lines have been constructed from other fields, until today we have a vast network of natural gas pipelines throughout a substantial portion of the nation.

In addition to solving the problem of long-distance, high-pressure gas pipelines, other factors contributed substantially to this rapid and extensive development. There were owners of gas and gas rights who were anxious to produce and sell their product. At the other end of the line, there were thousands of potential consumers of all classes who desired to buy and utilize the product. And so, the situation was made to order for any organization with the necessary capital and "know-how" to bring the product and the market together by the construction of long-distance pipelines.

In the late thirties, the Natural Gas Act was passed, incorporating a provision which for the first time required the issuance of a certificate of public convenience and necessity by the Federal Power Commission before an interstate gas pipeline could be constructed by "a natural gas company." But even this innovation did not at the time seem to threaten the old concept of the free movement of natural gas in interstate commerce. About the same old rules seemed to apply. An organization with the necessary capital, gas reserves and market would be entitled to, and would receive, a certificate. This has been particularly true during the war emergency, when fuel supplies have been low and the demands have been high.

There are definite straws in the wind, however, which indicate that "the good old days" of the second period are drawing to a close and that the natural gas industry is about to enter the third period of its history, when, so far as natural gas is concerned, the freedom of interstate commerce may not be so free. These straws present a definite threat against the old freedom of putting product and market together by the construction of interstate pipelines. Our big strong boy of former years may have to cease his roaming over the continent, and he may even be compelled to remain at home.

The trend indicated for the third period can best be illustrated by reviewing a few paragraphs from a recent address of Commissioner John W. Scott of the Federal Power Commission given before the Interstate Oil Compact Commission in New Orleans:

> "Historically, the natural gas industry has expanded rapidly and as the early producing areas became depleted the companies extended their lines to new sources of supplies. This has led to the construction of long transmission pipelines to those areas which have been endowed by nature with great quantities of this exhaustible resource. We know that in many instances more than one company drew from the same reserve, and no attempt was made by the companies to agree to an equitable withdrawal. It was the objective of each to get the most gas out of the ground in the shortest possible time. In part this gas was disposed of to large industrial customers at rates with which other fuels could not compete. It was sold without regard to the manner of its utilization and in many instances it resulted in nothing more than sheer economic waste. Thus the quest for quick profits depleted the large reserves of some areas in a short period of time."

Commissioner Scott then reviewed the enactment by Congress of the Natural Gas Act, with the Federal Power Commission delegated to ad-

Presented at the Natural Gas Spring Conference, French Lick Springs Hotel, French Lick, Indiana, May 11, 12 and 13, 1944.

minster its provisions, one of which is the issuance of certificates of public convenience and necessity for the extension, acquisition, construction or operation of pipelines. He cited the great production of natural gas being used as a prime fuel during the present war, and the depletion of older gas reserves in the Appalachian area. Then he follows with a few paragraphs which are of particular interest in this discussion:

"The proposed construction of natural gas pipelines during the war period has heightened the interests of the public officials in several producing states from which it is proposed to export natural gas through such proposed facilities. Great concern is voiced over the rapid depletion of natural gas for industrial purposes beyond the confines thereof.

"At the time the Tennessee Gas and Transmission Company case was before the FPC (when it was expected that reserves located in Louisiana would be the source of the supply for that project), officials of the State of Louisiana in a petition to intervene stated:

"'That it (Louisiana Public Service Commission) has been authorized and directed by appropriate resolution of the Legislature of Louisiana, at its 1942 regular session, to appear in proceedings of this nature where the supply of gas for transmission originates in whole or in part in the State of Louisiana, and to oppose such applications as are here involved, for the reasons that continued unrestricted, unrestrained and indiscriminate withdrawals will result in an early depletion of the natural gas reserves of Louisiana; that such a practice will constitute a most serious handicap and bar to the normal industrial development of the State and will prove socially and economically unsound as a national policy when the proposed transmission is to areas already supplied with other fuels.'

"At one of the earlier hearings in this proceeding, testimony was given by Governor Sam H. Jones, and other representatives of Louisiana.

"Thereafter in March 1943, Governor Jones issued a pamphlet entitled 'Louisiana's Natural Gas Resources,' wherein it is pointed out how the timber resources of his State had been denuded by the 'cut and get out' system. He envisioned the same thing happening to its natural gas resources unless steps were taken to prevent it. Said he: 'The list of materials highly necessary and desirable for a fuller economic and social development which can be produced from natural gas staggers the imagination with its potentialities.' In pertinent passages he opened up the great vista of things to come—the utilization of natural gas in important chemical processes. Additionally, officials of Texas and West Virginia have also voiced concern about the supply and use of natural gas, while members of Congress have made general inquiry into the availability of fuel, including exhaustion of gas in certain areas of the country.

"In practically all the certificate proceedings held by the Federal Power Commission, representatives of both management and labor in the coal, railroad and related industries have intervened in protest against the construction of new pipelines. It is their contention that the rapidly expanding marketing of natural gas will result in displacing fuels whose reserves are not so limited and will create economic maladjustments, unemployment and other hardships in industries already supplying markets; that natural gas is a 'luxury' fuel and should be conserved for the benefit of domestic and commercial consumers and used for so-called 'superior purposes' and that natural gas is being utilized for many industrial purposes which could be served adequately by other types of fuel.

"The recital of the several contentions which I have enumerated makes obvious the many technical difficulties and problems inherent in our certificate work. Broad questions of state and national policy are involved. Wise use of our supplies of natural gas, an exhaustible resource, is of fundamental concern to the people of this country. A sound economy in the postwar period requires its availability and this in turn can be assured only if appropriate measures relating to its production and utilization are adopted.

"We of the Federal Power Commission have been weighing and most earnestly considering these matters, particularly since the amendment to Section 7(c) of the Act in February 1942.

* * * * *

"The Interstate Compact, the Natural Gas Act and the statement of the Supreme Court just about make us kinfolk. Our respective agencies have been given an important trust. While each has a responsibility to protect the public interest in its own sphere of activity, the necessity for close cooperation between our Commissions is obvious."

When Tennessee Gas and Transmission Company decided to change the source of its gas supply from Louisiana to the Gulf Coast of Texas, the State of Texas was no less disturbed. State officials, chambers of commerce, and the citizens in general opposed the project and urged conservation of Texas gas for Texas consumption. An Investigating Committee of the State Senate held a hearing in Austin for the purpose of developing the facts regarding this proposed pipeline project. Dr. Schoch, Professor of Chemical Engineering at the University of Texas, appeared as a witness at the hearing. A few paragraphs from his statement will suffice to show how the State of Texas is currently thinking on the subject of gas conservation:

"The recent announcement of the Tennessee Gas and Transmission Company that on September 29, 1943, it had received from the Federal Power Commission a certificate of convenience and necessity to construct a 1200 mile natural gas line from Corpus Christi, Texas, to Kenova, West Virginia, has served to arouse Texans to the realization that their greatest means for developing their state industrially may be taken from them. It is believed that the time is ripe for a calm and careful consideration of the question, and the following is written with the hope of starting this.

"A thriving industry cannot exist without a cheap source of energy. It is on account of its stupendous gas reserves that Texas has come into the foreground as a possible industrial center."

Dr. Schoch then continues his statement with a comparison of the values of lignite and low grade bituminous coal in Texas with the value of the State's gas reserves. I quote again:

"With the recent discoveries of her enormous reserves of natural gas, Texas attained the unique position of having the cheapest fuel supply in the world, and this is now attracting industry to Texas. The price of fuel gas in Texas now ranges between 2 and 5 cents per 1000 cu. ft. at the wells. The price must come up to 10 cents before gas will come into competition with lignite, and it is

likely that industrial concerns are expecting to get gas at the lower prices for quite a long time.

"Texas is now credited with a total gas reserve of 50 trillion cu. ft. An estimate of possible future discoveries is risky, but those most competent to make such estimates have ventured to say that, at most, another 50 trillion cu. ft. may be discovered. To be safe, let us consider the total ever available to be 75 trillion cu. ft."

Dr. Schoch then submitted a chart showing natural gas statistics for Texas and details of gas used within the State; also a chart showing Texas' use from pipelines, gas exports, Texas' field use and gas-oil industry, waste to air, and total production. I again quote from Dr. Schoch's statement:

"Next comes the item which has started the present discussion, namely, the exported gas. We find that this amounted to 270 billion cubic feet in 1942. The new 24 inch pipeline to West Virginia will increase this by 70 billion, bringing the total exported in 1944 to 340 billion cubic feet per annum. It is now increasing at the rate of 22 billion cubic feet per annum.

"The new pipeline is the first one to take gas from Texas to the Appalachian states. Heretofore our gas was exported mainly to the following States (in billions of cubic feet): Colorado 25; Illinois 65; Indiana 11; Iowa 16; Kansas 32; Louisiana 11; Mexico 6; Minnesota 12; Missouri 19; Oklahoma 14. This shows that our gas goes in all directions and it is likely that the out-of-state demand for Texas gas may increase our exports even more rapidly than heretofore unless something is done to counteract this demand. One of the main facts which make this likely is the experience gained from the earlier pipelines."

Finally, we have to consider the import of several statements made by Justice Jackson in his dissenting opinion in the *Hope Natural Gas Co.* case, decided by the Supreme Court of the United States last January, with respect to regulating the functional use of natural gas. There is time only to make one significant quotation from his opinion, which is as follows:

"Utilization of natural gas of highest social, as well as economic return, is domestic use for cooking and water heating, followed closely by use for space heating in homes. *This is the true public utility aspect of the enterprise, and its preservation should be the first concern of regulation.*"

From what has been said, it should be clear that several vital problems are at the threshold of the natural gas industry. We must anticipate that there will be increased opposition to the exportation of gas by the major producing states. While a statute prohibiting exportation may not be constitutional, other methods of accomplishing the same end will be attempted, such as taxation or collaboration with the Federal Power Commission to prevent the issuance of a certificate of public convenience and necessity. We must also anticipate that attempts will be made to prevent the utilization of gas for what are considered to be uneconomic uses.

It is assumed that most of these issues will be weighed and resolved in the scales of public interest. It would be gross negligence on the part of the natural gas industry if it did not take a prominent part in assembling the necessary facts to be weighed. In the light of experience and knowledge, who is better qualified to testify? From every standpoint, including the millions of dollars invested, who has a greater responsibility in bringing about a correct decision? Commissioner Scott has said, "Moreover, it is not our purpose to destroy the business of natural gas companies subject to our jurisdiction. Such business is lawful in character. It has a right to be treated fairly." The Commissioner's statement is heartening; nevertheless, with the best of intentions on the part of public officials and others who will be called upon to decide these questions, the industry is not going to be saved by standing on the sidelines.

Fortunately, our new Natural Gas Department arrives upon the scene just in time to grapple with these problems. There is no other body so thoroughly qualified to prepare and present the industry's point of view. Frankly, I do not pretend to know the answer at this time, and I doubt if any of my listeners do. The correct answer is not going to be reached until after extensive investigation and study. Our facts and conclusions resulting from investigation and study will be of no avail, unless they are convincing to the public authorities charged with the responsibility of making ultimate decisions. It seems obvious that the best results will be obtained by the fullest cooperation with such public authorities, not only in reaching ultimate conclusions but in the earlier stages of investigation and study.

As one point of beginning on this program of cooperation, I would suggest closer contact with the Interstate Oil Compact Commission, which has been in existence under authority of Congress since 1935. Its membership now consists of eleven states which produce approximately 80% of the current oil production in the United States. It is charged with the duty of advising national and state governments in connection with the conservation of oil and gas. It has done excellent work since its inception, particularly with respect to the prevention of waste in the production of oil. It is not unreasonable to expect that in the future it will devote a substantial part of its time and attention to the conservation of natural gas. In looking over the directory of officers and committee members of the Commission, it does not appear to contain the name of any person who is directly connected with the natural gas industry. Undoubtedly, this is a situation which could, and should, be remedied by the natural gas industry.

Again, let me repeat, the new Natural Gas Department arrives at an opportune time. Serious problems are on the march and I am confident that our Natural Gas Department will keep abreast of the march.

THE STACEY MANUFACTURING CO.
Engineers Fabricators Constructors
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New Pipe Line to Los Angeles Area To Tap the Goleta Field

By
Fred A. Herr

INSURANCE against recurrence of gas shortages in the Los Angeles area during periods of winter peak demands, such as occurred during the early part of 1944 when shut-off clauses in surplus industrial contracts had to be invoked, has been taken out by the Southern California Gas Co. and Southern Counties Gas Co. of Los Angeles in the form of a project providing for the construction of a $4,000,000 pipeline to bring gas from the Goleta dry gas field, north of Santa Barbara, Calif., to Los Angeles.

Approval of the project has already been given by the Area Production Urgency Committee of the War Production Board. Orders for the necessary pipe have also been placed and commencement of actual construction of the line, depends on delivery of the materials. Approval for urgency ratings on manpower and other factors necessary for carrying out the project has also been issued by the Area Production Committee of W.P.B.

Source of the gas to be piped to Los Angeles is the Goleta dry gas field located 10 miles north of Santa Barbara (about 110 miles by road from Los Angeles), where an underground dry gas storage operation of considerable magnitude has been conducted by Pacific Lighting Corp. for three years.

Plans submitted to the W.P.B. by the Los Angeles gas companies call for piping 164,000,000 cu. ft. of gas from Goleta to Los Angeles for use during periods of peak demand by war plants and other customers classified as essential in the Los Angeles area.

Plans Ready by June

Pipe line construction is expected to proceed in two separate sections. In the one phase, Southern Counties Gas Co. will undertake to build 36 miles of 16-inch pipeline southward from Goleta in Santa Barbara County to Ventura in Ventura County, where the company has an existing compressor plant. This phase of the project is estimated to cost $1,083,290 and to require approximately 16,500 man days for completion. Southern Counties Gas Co. officials expected to have plans sufficiently advanced to call for bids about June 1 or shortly thereafter. As part of the main project, Southern Counties Gas Co. was also to revamp its Ventura compressor station and supplement that equipment with a dehydrating plant.

In the second phase of the project (to move forward concurrently with the other if materials are available), The Southern California Gas Co. is to carry the line southward from Ventura to Los Angeles by construction of 55 miles of 18-inch pipe line and twelve miles of 22-inch line. Plans call for this work to be done by the Southern California Gas Co. with its own personnel. Cost of the Ventura-Los Angeles line is estimated at $2,368,900 and man days at 41,300. The company has already placed orders for fabrication of pipe with the Youngstown Sheet and Tube Co. and the A. O. Smith Co. of Milwaukee.

Four More Dry Gas Wells

Supplementing the pipeline construction by the Los Angeles gas firms, Pacific Lighting Corp. has agreed to drill four more dry gas wells in the Goleta area, to revamp its existing compressor plant there, and install a dehydration plant.

The entire project is designed to enable the Southern California Gas Co. and Southern Counties Gas Co. to meet the forthcoming winter season peak demand for gas with more assurance than was possible in past years by storing considerable volumes of surplus gas underground at Goleta during the summer months, and drawing upon it for transport to Los Angeles in the new pipeline when abnormal demands occur in the Los Angeles area.

It has been emphasized by officials of the gas companies that the project has been planned to require a minimum of critical materials and equipment. The peak load capacity provided by the Goleta-Los Angeles pipeline project, it was pointed out, could not be obtained by a less expenditure of either labor or materials by any other means at the disposal of the utilities; it is, in fact, the best and most logical means of providing the needed capacity for gas in time for the next winter season.

New Supply Needed

The need for the new pipeline to make additional gas reserves available to the Los Angeles area was indicated by the experiences of January and February, 1944. Heavy curtailment of surplus industrial gas usage became necessary for varying periods of time in order to maintain service to essential domestic and commercial customers, and to war industries. The highest demand occurred on February 20 and 21 when the amount of gas distributed in the Los Angeles Basin exceeded 500 million cu. ft. per 24-hour period. This distribution exceeded by some 10 million cu. ft. the previous high peak of delivery by Southern California Gas Co., which occurred in January, 1937.

Pacific Gas & Electric Corp. collaborated with the Los Angeles utilities during the emergency early this year by cutting off surplus gas supplies to non-essential users in its San Joaquin Valley territory and diverting gas for essential uses in Los Angeles.

To effect this delivery, PGEC, with State Railroad Commission approval, entered into a temporary agreement with Southern California Gas Co. and Southern Counties Gas Co. to make available and deliver to them gas as an emergency accommodation under the Integration of Gas System Operation Section of W.P.B. Order U-7. The agreement specified that PGEC would undertake the obligation of delivering gas as a war measure only and when it had the gas and transmission line capacity, after Southern California Gas Co. and Southern Counties Gas Co. had first notified all their surplus gas consumers paying 20c or less per M.C.F. to discontinue that use.

That agreement with P.G.E.C. was entered into December 9, 1943, to meet the immediate gas shortage emergency of the winter of 1943-44 only, and was made terminable by mutual consent on April 1, 1944.

Southern California Gas Co. and Southern Counties have adopted various other methods of facilitating customer handling during the war emergency. Because of the tremendous increase in the production of war materials in Southern California, and the growing volume of rules and regulations imposed by

(Concluded on page 52)

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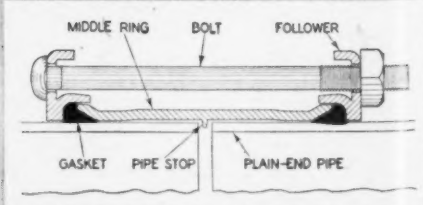

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Natural Gas,—A Heat and Power Colossus of American Industry

Part 2

System of Columbia Gas & Electric Corporation

One of the most important of the country's natural gas transmission systems is that of the Columbia Gas & Electric Corporation, one of the largest utilities in the country, its operations centered in highly industrial areas of Pennsylvania, Ohio and West Virginia. Its energies are devoted eighty per cent to gas, its revenues in 1943 from this fuel having approximatel $84,500,000, or 60 per cent of the gross, including electrical and other operations. Gas sold in 1943, amounted to 187,284,477 mcf, an increase over the previous year of more than 10 per cent. Customers served numbered 1,240,000, of which 1,150,000 were residential. Sales were distributed in thousand cubic feet as follow: domestic 76,208,000; industrial 73,297,000; commercial 14,185,000; industrial 73,297,000. The territory served contained 1,644 communities.

The natural gas transmission lines of this vast and intricate system radiate from the principal natural gas fields of Ohio, Kentucky and West Virginia to many of the most important industrial areas of the Middle West and the Eastern Seaboard, and, through connecting lines, tap also the natural gas reserve of Texas and Oklahoma.

In this continuing article on some features of Natural Gas development in America, we present material and data which reached us too late for inclusion in the May issue. It serves to supplement the subjects as presented in that number.—Ed.

The most important units of the system are its pipelines from the West Virginia-Kentucky fields to Cincinnati and from Kenova, Kentucky, to Sugar Grove, Ohio, the site of the largest of its 116 compressor stations, which have an aggregate capacity of 219,776 horsepower. From Sugar Grove, lines radiate throughout the state of Ohio bringing this important fuel to Columbus, Dayton, and Toledo, and countless other communities and industries. From the same terminal point of Sugar Grove, other lines extend across the State of Pennsylvania and New York, to the gates of Philadelphia and Jersey City, having a total mileage of 13,061, not including distribution and field lines, which approximate together 20,000 miles.

Transmission Lines of the Monroe Field

From the Monroe Field of Louisiana, pipelines run to St. Louis, Memphis, Birmingham, Atlanta, Alexander, Baton Rouge, New Orleans, and other industrial cities. St. Louis is served by the transmission system of the Mississippi River Fuel Company, owned by the United Gas Corporation, in its turn a subsidiary of Electric Power & Light, whose top holding company is Electric Bond & Share. United Gas's interest is forty-seven per cent, and the balance is held by Standard Oil of New Jersey, 23.29 per cent; Columbian Carbon Company, seventeen per cent, and United Carbon Company, thirteen per cent.

The pipeline to Baton Rouge, where the great oil refinery of the Standard Oil Company of Louisiana is located, is owned by the Interstate Natural Gas Company, a subsidiary of the Standard Oil Company of New Jersey.

Memphis is reached from this

Left:—Pipe cleaning and priming machine in operation. Right:—Sixteen inch O.D. natural gas transmission line joined with Dresser couplings.

field by the pipe line of the Memphis Natural Gas Company, in which system the Commonwealth Gas Company has forty-eight per cent interest.

Atlanta, Georgia, is connected with the Monroe Field by the transmission line of the Southern Natural Gas Company, in which Federal Water Service has a half interest. The Southern Natural Gas Company also operates a 165-mile pipeline from the Monroe Field to Alexandria, Louisiana, and from the Ville Platte, Louisiana, field to the same city, where its gas is delivered to the municipal plant. This pipeline also serves the Beauregard and Livingstone military encampments.

The city of New Orleans, Louisiana, is served by the transmission lines of the United Gas Corporation.

Panhandle Eastern Pipe Line Company

In recent years other great pipelines have been constructed from this field, and among them none is more notable than the Panhandle Eastern Pipe Line Company, whose 2,547 miles of transmission lines, 1,789 of which are more than fifteen inches in diameter, serves the great industrial cities of Detroit, Michigan and Cleveland, Ohio, with gas, and, in addition, with its subsidiaries sells gas to various distributing companies in Kansas, Missouri, and Illinois, as well as to a number of large industrial users direct. It is estimated that natural gas from the Panhandle Eastern's system is used by 120,000 consumers.

The pipeline of the Panhandle Eastern, and its wholly owned subsidiary, the Panhandle Illinois Pipe Line Company, extends from the Panhandle field in Texas, to Vermillion County, Indiana, and to Detroit, Michigan, and Cleveland, Ohio, traversing Oklahoma, Kansas, Missouri, and Illinois. Its main transmission line has an aggregate length of 850 miles, of which 350 miles are twenty-four inch pipe, 450 twenty-two inch, and the remainder twenty inch.

Recently, by authority of the Federal Power Commission, the Panhandle Eastern, at a cost of $11,000,000, has looped its main transmission line from Western Kansas to Ohio, to connect with the facilities of the East Ohio Gas Company, one of the utilities of the Consolidated Natural Gas Company, which serves Cleveland, Ohio, and a large portion of Ohio. The East Ohio Gas Company has *772* miles of main transmission lines, for in addition to the 120-mile twenty inch line it built to connect with the Panhandle Eastern it has been bringing gas from West Virginia for years, connecting with the lines of its sister company, Hope natural, at the borders of that state. The line that connected Cleveland with the Panhandle Eastern terminals cost approximately $3,000,000.

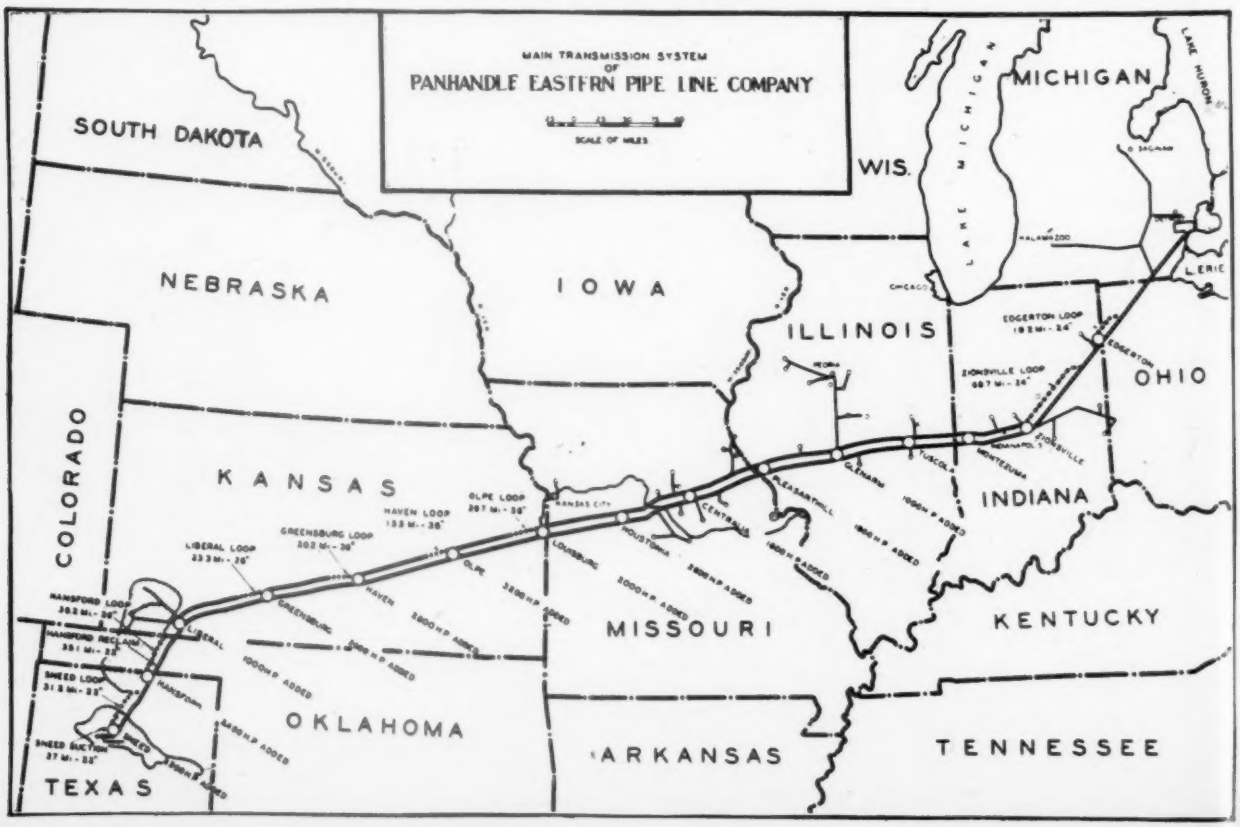
Panhandle Eastern Expansion in 1943

Panhandle Eastern Pipe Line Company has completed its expansion program for 1943.

The system, comprised of field gathering lines in Kansas and Texas, a main transmission line extending from Texas Panhandle to Detroit, with lateral lines to intermediate points in Kansas, Missouri, Illinois, Indiana, Ohio and Michigan serves a large area devoted to War Production.

The program adopted called for construction of eight loops on the main line, totaling,

34.03 Miles of 22" Line
86.8 Miles of 24" Line
121.88 Miles of 26" Line
(Including 1 Mile across Beaver River)
Reclaim 35.15 Miles of 22" Line



And additional compressor installations totaling 24,600 H.P.

Location of lines and compressor installations are shown on the system map.

Construction was completed and lines placed in service as follows:

Liberal Loop	23.37	Miles	26 inch	September 26
Beaver River	1.00	"	24 "	September 25
Hansford Main Line	35.15	"	26 "	November 7
Edgerton Loop	18.25	"	24 "	November 11
Olpe Loop	26.64	"	26 "	November 13
Zionsville Loop	68.56	"	24 "	November 17
Greensburg Loop	20.19	"	26 "	November 18
Haven Loop	15.53	"	26 "	December 12
Sneed Loop & Suction	34.03	"	22 "	February 29

Design of the lines followed conventional forms. Principal specifications were as follows:

Sneed Loop

22" O.D. x 5/16" W.T.	Average length of joints 30 feet. Reclaimed from Hansford Main Line.
Joints	Alternate welded and coupled, with Dresser Style 38 Coupling every 60 feet.
Coating	Coal Tar Plasticized Enamel used for both pipe and couplings.

Hansford Main Line

26" O.D. x 1/4" W.T.	A. O. Smith electric welded plain end pipe 40 foot lengths.
Joints	All Welded—electric Arc.
Coating	Coal Tar Plasticized Enamel with one bonded wrapping of kraft paper.

Liberal Loop—Greensburg Loop—Haven Loop—Olpe Loop

26" O.D. x 9/32" W. T.	A. O. Smith electric welded plain end pipe 40 foot lengths.
Joints	Alternate Welded and Coupled. Electric Arc Weld-Dresser Style 38 Coupling.
Coating	Coal Tar Plasticized Enamel with one bonded wrapping of kraft paper. Used for both pipe and couplings.

Zionsville Loop and Edgerton Loop

24" O.D. x 9/32" W.T.	A. O. Smith electric Welded plain end pipe 40 foot lengths.
Joints	All Welded—electric Arc.
Coating	Coal Tar Plasticized Enamel with one bonded wrapping of kraft paper.

Beaver River Crossing

24" O.D. x 3/8" W.T.	A. O. Smith electric Welded plain end pipe 40 foot lengths.
Joints	All Welded—electric arc, with ½" steel welding sleeves.
Coating	Coal Tar Plasticized Enamel with bonded wrapping of kraft.
Special	Pipe laid a minimum depth of 14 feet below river bed—with cast iron river clamps every 40 feet.

Upon completion of construction of individual sections, lines were blown and tested for service. In order to reduce the accumulation of dirt and other matter remaining in the line after construction, a special solution of Kerosol and water between two rubber squeegees was forced through the line by gas pressure. This solution removed any foreign matter adhering to the interior of the pipe, and as an innovation by this Company, offers a lead for further investigation along this line.

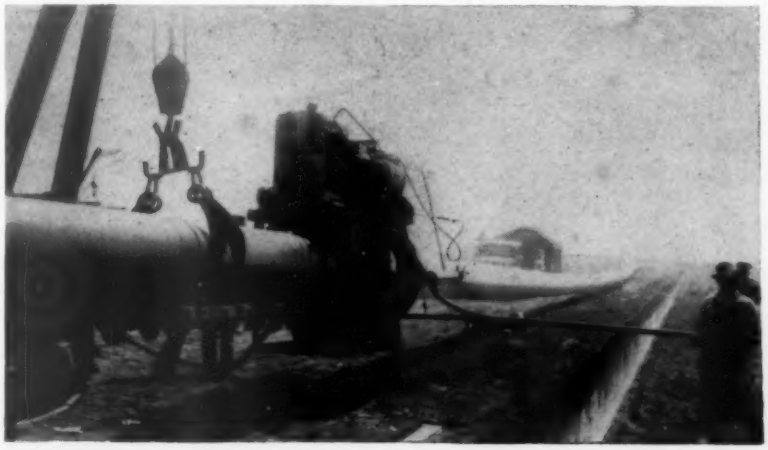
Additions to Compressor Horsepower

In addition to the completion of a major pipe line construction program, consisting primarily of some 200 miles of main line looping, Panhandle Eastern Pipe Line Company has recently completed the installation of 24,600 additional compressor horsepower in its existing main line compressor stations.

Engineering studies of main line capacity requirements for peak load conditions, indicated that the economic balance of the company's system as to pipe and power, called for a compression ratio of 1.60 as a basis for compressor station horsepower design and the conclusions of the studies resulted in the installation of additions to all main line compressor stations from Texas to central Illinois. A tabulation of additions to the stations and their relative location on the system map is as below:

The company's engineering department made all designs in connection

Station	*Location*	*Additional Horsepower*	*Total Horsepower*
Sneed	Stinnett, Tex.	4- 800 Ingersoll-Rand	11,000
Hansford	Hitchland, Tex.	4- 800 " "	8,400
Liberal	Liberal, Ks.	1-1000 Cooper-Bessemer	11,000
Greensburg	Greensburg, Ks.	2-1300 " "	10,400
Haven	Haven, Ks.	2-1300 " "	10,400
Olpe	Olpe, Ks.	4- 800 Ingersoll-Rand	11,000
Louisburg	Louisburg, Ks.	2-1000 Cooper-Bessemer	9,000
Houstonia	Houstonia, Mo.	2-1300 " "	9,100
Centralia	Centralia, Mo.	2- 800 Clark Bros.	9,400
Pleasant Hill	Pleasant Hill, Ill.	2- 800 Clark Bros.	9,400
Glenarm	Springfield, Ill.	1-1000 Cooper-Bessemer	8,000



Traveling Type Machine Coating and Wrapping 26" O.D. Pipe Line. Wailes Dove-Hermiston Corp., Westfield, N. J. uses modern machine to apply Bitumastic 70-B Enamel and Wrapping to Natural Gas Pipeline Co. of America pipe line from Unadilla, Nebraska to Plattsmouth, Nebraska.

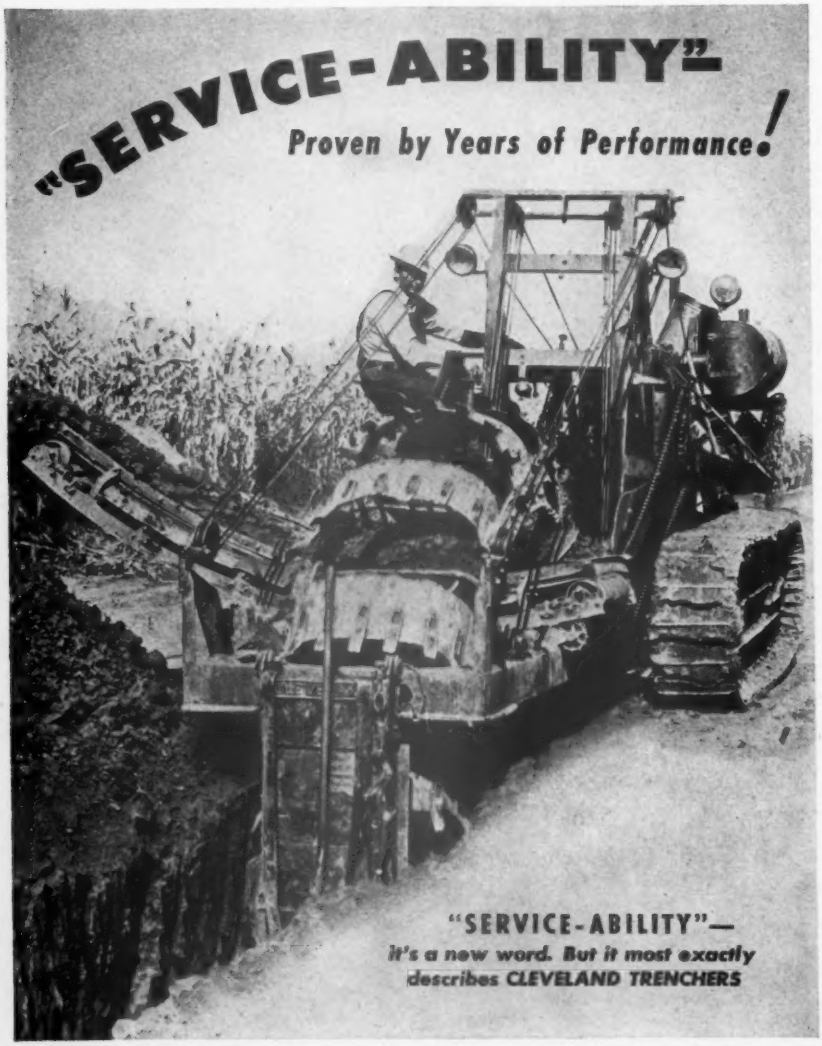
with the compressor additions, and its purchasing department purchased all material for the complete installation of the new additions. Resident engineers in the field helped to expedite the actual construction of the work after having spent several months in the office familiarizing themselves with construction drawings and company policies.

Completion of the loop line and compressor station program has provided a system rated capacity of 333,000 MCF per day of sales. A peak of 357,000 MCF has been delivered in one day.

Other Panhandle Lines

Other major natural gas transmission lines which radiate from the Panhandle Field are those of the Colorado Interstate Gas Company to Denver, Colorado, and the Northern Natural Gas Company, to Minneapolis.

The Northern Natural Gas Company is owned by the United Railways Company, a subsidiary of United Light & Power, and North American Light & Power Company, a subsidiary of the North American Company.



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Tennessee Gas & Transmission Co.

What is probably the most ambitious single enterprise in the history of natural gas transmission is that now being undertaken by the Tennessee Gas and Transmission Company of Houston, Texas, a project that in its consummation will represent an aggregate investment of more than fifty million dollars.

This great transmission system will extend from the Stratton-Agua Dulce Field, in Nueces County, Texas, near the Gulf of Mexico, to central West Virginia, traversing in its course of 1,265 miles the states of Louisiana, Arkansas, Mississippi, Tennessee, and Kentucky.

The Tennessee Gas and Transmission Company's pipe line has a diameter of 24-inches from its point of origin in Texas to the Big Sandy River, at the Kentucky-West Virginia border, and a reduced diameter from that point to Cornwell Station, West Virginia, where it connects with the Columbia Gas and Electric and the Hope Natural Gas systems, this reduction being accounted for by the fact that a considerable amount of gas is to be diverted to the Columbia Gas and Electric system, at Kenover, on the Big Sandy.

The Tennessee Gas and Transmission Company's pipe line is to have seven compressor stations of the most modern design and construction. Three of these stations, those at Egypt and Jasper, Texas, and West Monroe, Louisiana, will be equipped with Worthington Pump and Machinery Company engines, and will have an installed capacity of 9,000 horsepower each. These stations at Batesville, Mississippi, Lexington, Tennessee, and Campbellsville, Kentucky, will be equipped with engines of Cooper-Bessemer design, each with an installed capacity of 8,000 horsepower. The seventh station located on the Big Sandy, will also be equipped with Cooper-Bessemer engines, but of 7,000 installed horsepower.

In addition to its compressor stations, the pipe line will be serviced by a large dehydration plant at Agua Dulce, capable of handling the 207,000,000 cubic feet of natural gas which is to be the capacity of the transmission line as presently planned. The compressor and dehydration plants are being built by the Stearns-Roger Manufacturing Company, of Denver, Colorado.

In its passage northwestward, the pipe line of Tennessee Gas and Transmission Company will have twenty-four major river crossings

The Federal Power Commission and The Natural Gas Industry

By

Franklin Williams

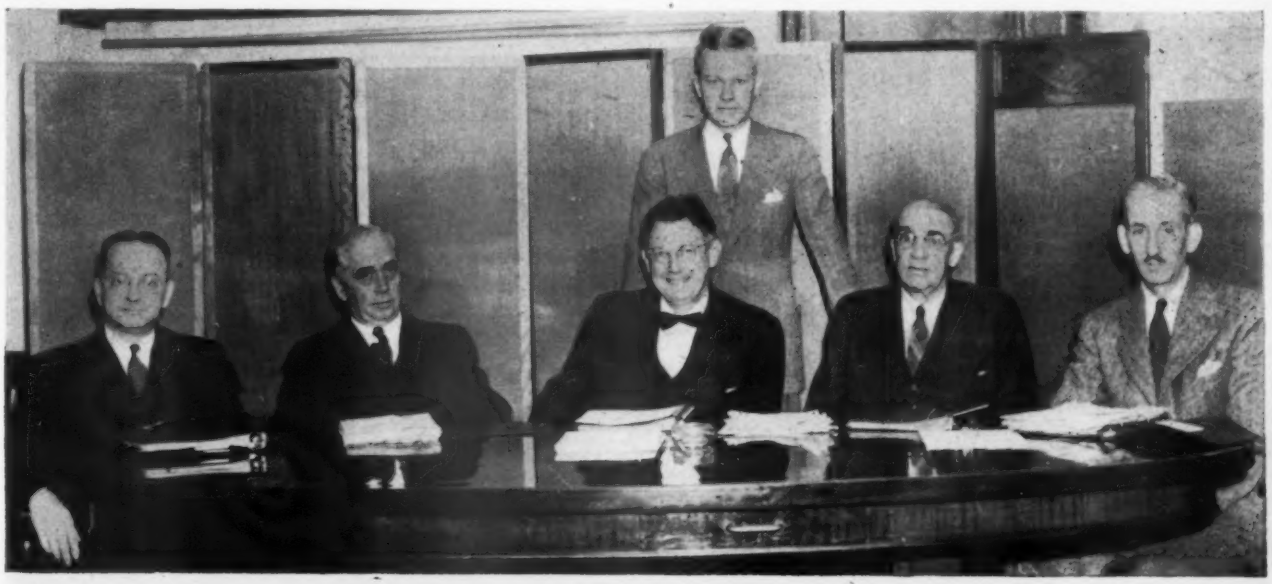
ON JUNE 21 next, six years will have elapsed since the passage of the Natural Gas Act, which conferred on the Federal Power Commission approximately the same general control over companies engaged in the interstate transmission of natural gas that it previously had over similarly engaged electrical utilities. This meant, of course, that this government regulatory body received arbitrary powers to regulate all natural gas pipe-line companies in the country, except the comparative few whose activities were intrastate.

Broad indeed were the powers vested in the Commission under the act, ranging from supervision of rates, determination of capital investments and depreciations, the formulation of uniform systems of accounting, and various other operations of natural gas companies engaged in interstate commerce. All such companies, too, are required to furnish the Commission with detailed reports that can be used effectively in the administration of the Act, or for any other purposes that the Commission may see fit to employ them. In brief, the natural gas companies are brought under the same measure of control to which the electrical utilities engaged in interstate commerce have been subjected to for some years under the Federal Power Act, which is also administered by the Federal Power Commission.

As was expected, this new regulation, considered by many as too extreme, was greeted at first with a measure of suspicion, if not open hostility. This was natural, for natural gas companies, especially those engaged in transmission, had enjoyed what might be described as historic freedom, and had never been subject to the stringent regulation that had been the lot of the distributing companies, especially those dealing in manufactured gas. However, compliance with the many provisions of the act has been mandatory, and gradually open hostility has subsided, and suspicion has lessened, so that today compliance is general, and the attitude of almost all the natural gas companies is one of co-operation, probably not enthusiastic, but nevertheless real. Of course, the impetus of war has brought unexampled prosperity to the natural gas industry, which rate reduction and arbitrary control has not seriously affected.

The chief function of the Federal Power Commission under the Natural Gas Act, of course, has been in the regulation of wholesale rates of this fuel, and certainly in carrying out this one of its manifold duties it has not been idle. In the five years of the act, ending 1943, it claimed to have effected, either through mandatory action or voluntary agreement, total annual reductions to the consumers of approximately $34,000,000, without taking into consideration annual reductions to military establishments of about $400,000.

It is the claim of the Federal Power Commission that these reductions have affected millions of consumers in 29 states, and that great as they have been they have in no way injured the gas companies, pointing out that in the five-year period the natural gas industry has made aggregate capital investments, including two new great pipe-line systems, of $267,000,000. It is the boast of the Commission, also, that the reductions amount to more than 15 times the appropriations voted by Congress to cover the expenses of administering this act, the Federal Power Act, and its other duties. Such regulation, the Commission maintains, has been



Members of the Federal Power Commission. From left to right, Nelson Lee Smith, Commissioner; Basil Manly, Vice-Chairman; Leland Olds, Chairman; Claude L. Draper, Commissioner, and John W. Scott, Commissioner. Standing behind Chairman is Leon M. Fuquay, the Secretary of the Commission.

salutary rather than the reverse, for it has given natural gas securities an investment rather than a speculative basis, making them acceptable as good collateral in banking and brokerage circles.

Rate regulation, as has been pointed out, is not the only function of the Federal Power Commission. In collaboration with various state commissions, it has formulated a system of accounts for both natural and manufactured gas companies which, it claims, has laid the foundation for the determination of a prudent investment rate base, and acts as an effective deterrent against inflation. It has devised a questionnaire which all companies are compelled to answer in detail each year, which it is believed will provide uniform information that should be useful not alone to the Commission and to Federal and State regulatory bodies, but to the vast army of investors also.

In 1942 the Commission published a directory of gas utilities in the United States which listed all gas utilities in the United States, natural, mixed, and manufactured, with detailed information thereto. It was a volume of 536 pages, and was compiled with the assistance of the New York division of the Works Projects Administration from data furnished and edited by the utilities themselves.

This year the Commission completed for its own use, and for that of other Federal agencies, the War and Navy departments, and for individuals connected with the war effort of the industry, what is undoubtedly the most complete map of the chief natural gas areas and pipe-lines of the United States, showing compressor stations, gasoline plants, and the ownership of facilities. In addition, every city, town, and hamlet enjoying gas service of any kind are shown. It is priced at $5.00 but can be obtained only by those authorized to use it, and then only upon certification that it will be retained for their individual use.

At the present time, the Commission is planning to compile a statistical directory of natural gas companies as a companion volume to its annual, "Statistics of Electric Utilities in the United States." It will contain the same general information as the latter volume, published since 1937, and will be, it is believed, as widely employed and as useful.

The Federal Power Commission's views of its own usefulness to the natural gas industry of the country is embodied in its conclusion to its pamphlet, "The First 5 Years Under the Natural Gas Act," issued last September, which follows:

"Five years' experience in the administration of the Natural Gas Act has demonstrated that it is an effective instrument of regulation.

"At the time of its enactment, some doubts were expressed as to whether the fundamental principles, which had been found to be applicable to the regulation of utilities having a substantial permanent physical plant, could be properly applied to an industry whose property consisted in large part of natural gas reserves which were being continually drawn upon in its operation.

"Experience has shown, it is believed, that such principles of regulation are not only applicable to the natural gas industry but that they are peculiarly necessary in relation to such an industry for the protection of consumers and investors, as well as for the promotion of the public interest.

"Where the basic reserves are exhaustible, as in the case of natural gas, it is obviously desirable that, before millions are invested in well drilling and pipe-lines, and before thousands of consumers are induced to invest in appliances, there should be positive determination, after public hearings, that the enterprise is sound, and the reserves are sufficient to insure adequate service at reasonable rates over a sufficiently long period to justify every dollar honestly invested.

"If such effective regulation had existed during the earlier days of the industry, we might not now be confronted in certain of the Eastern areas with petitions for the abandonment of service, which will leave communities unsupplied with the gas to which they have grown accustomed, and for the utilization of which they have made large facility investments.

"Because of the very exhaustibility of the industry's reserves, it is obviously important that proper depreciation and depletion policies should be established. Fortunately, while natural-gas depreciation and depletion rates and methods have varied widely, the industry as a whole has been reasonably conservative, and has generally established adequate reserves for such purposes. It is desirable, however, that such policies and practices should be reasonably uniform. Such an objective the Commission will, it is believed, achieve in due course through its rate proceedings and the application of its uniform system of accounts.

"The Commission recognizes the great responsibilities which rest upon it as a result of the recent decisions of the Supreme Court. It will continue to discharge its duties with careful consideration of the rights and interests of consumers, investors, and others affected by the conduct of the utilities subject to its consideration."

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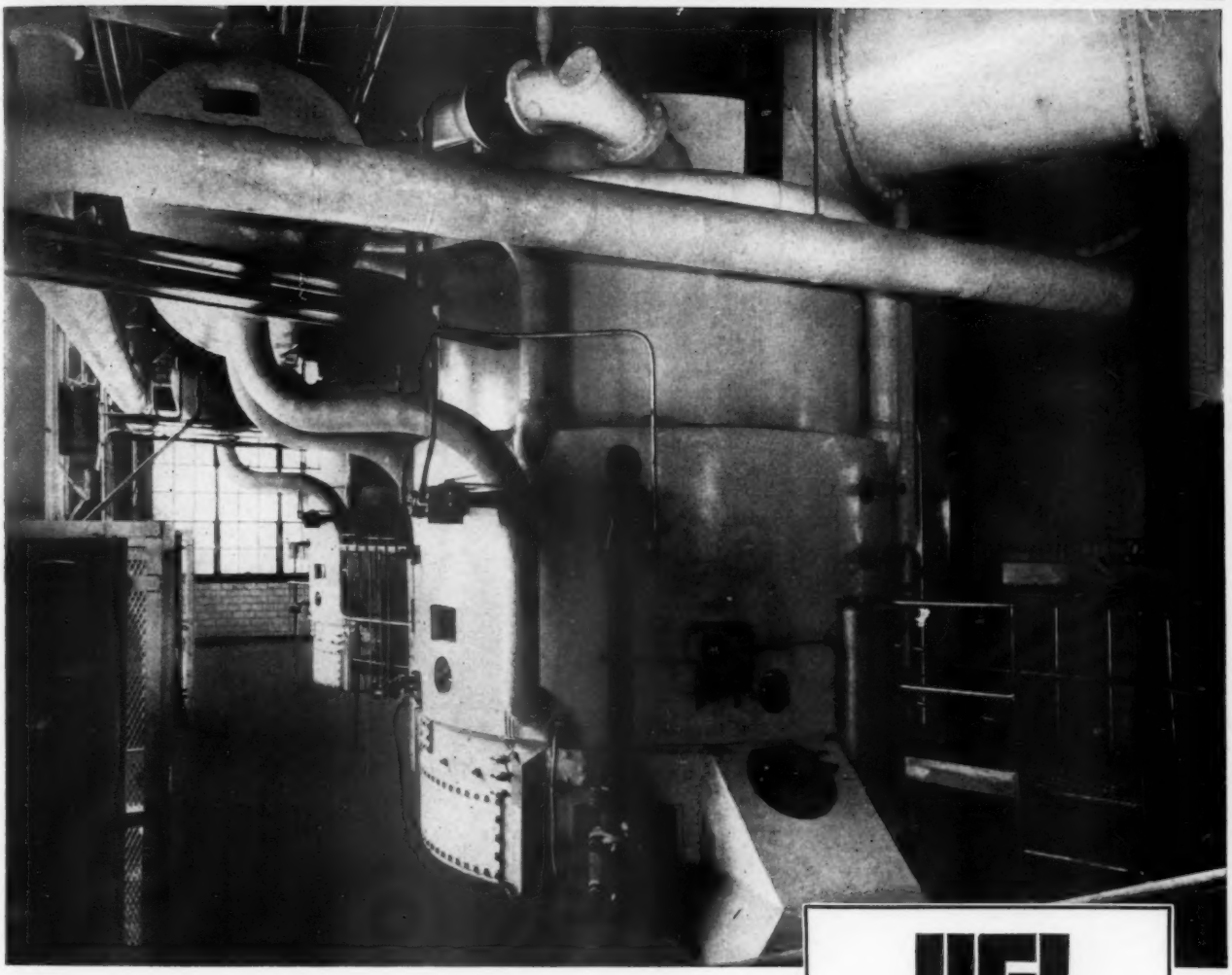

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NEW YORK PHILADELPHIA CHICAGO

What will the gas range of

"The best of prophets of
the future is the past."
Byron
A lighter between each front and rear burner makes
flash tubes shorter — results in better lighter performance.

t h e f u t u r e b e l i k e . . . a n d W H Y ?

DISCUSSION NO. 4

Top Burner Ignition will set a New Standard of Performance

The standard of living in America is continually rising. Many things formerly crude in performance and not too dependable have been greatly improved and we now consider them commonplace — even though they cost a great deal more.

First we had one and two cylinder automobiles, then four cylinder—now eight cylinder cars are the rule. First came dirt roads—we now have concrete. We first had silent films in black and white—now color films in sound are widely enjoyed.

And so also has progress been made in top burner ignition. At first it was necessary to ignite the top burners with a match. Then a manually operated push-button pilot was devised. Next came the automatic pilot lighter with four long tubes leading to the burners.

The Deluxe gas range of the future, however, will have a lighter for each pair of burners on the cooking top because this arrangement will provide better performance, more dependability and convenience. Lighting is fully dependable and faster because the distance from the pilot light to the burners is very short . . . construction is actually simplified and the same pair of burners—a front and a rear—have universal application. An entire line of gas ranges can be fitted with this one unit.

Many of the better ranges will have a lighter for each pair of burners. Remember it is performance that will really count on the postwar gas range.

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James Graham Mfg. Co.
Grand Home Appliance Co.
Hardwick Stove Co.
O'Keefe & Merritt Co.
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Annual Meeting Association of Gas Appliance and Equipment Manufacturers

THE ANNUAL meeting of A.G.A.E.M. was held at the Palmer House, Chicago, Ill., May 8 and 9. There were 175 members in attendance.

Col. Willard F. Rockwell, President of the Association, presided. After John Van Norden, Treasurer, read his report, the following officers for 1944-1945 were elected:

President—Lyle C. Harvey, President, The Bryant Heater Company, Cleveland, Ohio

1st Vice Pres.—D. P. O'Keefe, President, O'Keefe & Merritt Company, Los Angeles, California

2nd Vice Pres.—John A. Robertshaw, President, Robertshaw Thermostat Co., Youngwood, Pennsylvania

Treasurer—John Van Norden, Secy. & Mgr. Sales Promotion, American Meter Company, New York, New York

Ernest R. Acker, President, American Gas Association, talked on the subject "What the Future Holds for the Gas Industry."

"The future of the gas industry," Mr. Acker said, "whatever it may be, is your future and mine. The community of interests between the manufacturer and the gas company operator is inescapable. Neither one of us can exist without the other and we rise or fall together so long as our efforts are directed to the supply of gas service to the American public."

Mr. Acker referred to the activities of various A.G.A. committees, with particular reference to determining the type of appliances that are desired by the utilities, and to the vast research program now going at the A.G.A. Laboratories.

In conclusion, he stated "Let me repeat that the future of the gas industry is in our own hands, and that our future success depends to a large extent upon mutual support of our common objective. I have every confidence that through coordinated thinking and cooperative action we can avoid the mistakes of the past and go forward to a greater future."

Major Alexander Forward, Managing Director, American Gas Association, talked on the subject of "Teamwork," and stressed the importance of full cooperation between the manufacturers of appliances and the gas utilities.

Everett J. Boothby, Chairman A.G.A. Domestic Research Committee, briefly outlined the work of the committee from its inception in 1935.

"We in the gas utility business," he said "are in a unique position in that not one cubic foot of the product we make and sell, can be used except by means of appliances, which you and not we, design and manufacture. We cannot do business without your appliances. The use and sale of gas cannot be promoted without a vehicle of promotion. The gas appliance is that vehicle. Not only is the gas appliance the sole means of delivering gas service, but the quality of the performance of the gas appliance determines in minds of our customers, the kind of service rendered by the gas companies. Accordingly, we rightfully inherit not only a deep interest in ever improved gas appliances, but also a direct responsibility.

"In 1942 several things happened. First, the war had made it necessary for the plants of most, if not all of the gentlemen here, to devote 100% of their efforts to the production of war materials. The production of domestic gas appliances became nil. It was then assumed, if not known as a fact, that for an indefinite period at least, your capacities for research on domestic gas appliances would be very limited. Second, the American Gas Association's Treasury, was in better shape than it had been for a long time. Third, the Committee on Domestic Gas Research took a new "look-see" and recommended, in view of the possibility that increased funds might be made available, that its work be accelerated in the interest of completing as much as possible of its contemplated research work, before the conclusion of hostilities, in order that more and more technical data be available to your engineers and designers as early as possible in preparation for the competition we all know is inevitable.

"Again at that time, -942, when it was proposed that our basic research work be accelerated, some if not many of you, wondered if we might not be embarking on a program, which involved development work rightfully yours. We reiterated the principle of confining ourselves to research of the basic or fundamental. The Executive Board of the American Gas Association approved our proposal

L. C. Harvey

D. P. O'Keefe

John A. Robertshaw

J. Van Norden

to speed up our program and we proceeded to get going, with members of your group ever present on our committee and in our deliberations. Their counsel and advice has been extremely valuable.

"Whereas, for some seven years, the published bulletins of the Committee's work appeared at the rate of about one per year, at the present time they are appearing at the rate of about one per month.

"Those of us who have constituted the Committee on Domestic Gas Research, have endeavored to be practical in our thinking and to keep our viewpoint realistic. You gentlemen know better than I, that progress in an industry comes in two ways. One as a step by step improvement and development. The other when startling and sensational adaptations of wholly new concepts or principles are discovered by somebody. This latter happens only rarely. We have tried to lose sight of neither.

"We have a fairly large number of projects dealing with step by step improvement, while in the realm of new principles, we are exploring means of combustion for domestic appliances, other than by burners of the Bunsen type, to which domestic appliances seem to have been irrevocably tied for about ninety years."

Mr. Boothby gave a summary of the research work by the committee on Advancement of Present Day Bunsen Type Burners, Range Tops, Ovens and Broilers, Automatic Ignition, Automatic Ignition by Electricity, Automatic Ignition—Single Point Flash Tube, Water Heating and Space Heating. Bulletins are issued frequently on the progress of this research work and may be had by addressing the American Gas Association, 420 Lexington Ave., New York.

Mr. Boothby further stated "Our committee has taken the stand firmly, that in its program it must be sure not to go so far as to encroach upon what rightfully is your sacred ground of patentable development. It is for you to do it or for us to do it or for you and us."

C. V. Sorenson, Director A.G.A. Domestic Gas Research Committee, speaking on the subject of the "Coordinated Kitchen," stated that the type of service to be presented is one that the public will accept, in fact, demand, assurances of cooperation for the new program by appliance manufacturers, and widely distributed gas companies have been contacted with favorable results. The goal to be set should be to get a CP range in every home of a gas user as quickly as possible because gas ranges can be designed that will look better and perform better than any other type. He indicated that automatic gas water heaters would have to be redesigned to fit in with the program, and that gas refrigerator production should be doubled as soon as possible as it is an important part of the program.

Frank H. Adams, chairman Post-war Planning Committee, referred to the reports of the sub-committees on post-war planning committee of A.G.A. under the direction of A. M. Beebee, Rochester Gas & Elec. Co. Chairman. Four sub-committee reports have been printed and he urged that they be read and studied carefully by both appliance manufacturers and utility executives.

Mr. Adams stated "There has been appointed by A.G.A. on recommendation of its post-war committee, a 'Committee of Action.' This committee consists of leading executives of utilities in various sections of the country and includes the following manufacturers—N. R. Feltes, Bastian-Morley Co., Lyle Harvey, Bryant Heater Co., Frank Hoenigmann, Cribben & Sexton Co., Louis Ruthenburg, Servel, Inc., W. F. Rockwell, Pittsburgh Equitable Meter Co., Frank Adams, Surface Combustion Co.

"While there has been an almost unanimous support" he said "of the A.G.A., planning activity to date and the recommendations they have made, they are after all at the present time good expressions on paper of good resolutions and ideas. They are going to become realities

(Continued on page 52)

Divisional meetings were held on both afternoons of the meeting. Chairmen of the Divisions are as follows:

Chairman—CP Sales Management Committee: L. C. Ginn, American Stove Company, Cleveland, Ohio

Chairman, Direct Heating Equipment Division: H. E. Thompson, Chief Engineer, Peerless Manufacturing Corp., Louisville, Ky.

Chairman—Domestic Gas Range Division: F. J. Hoenigmann, Cribben & Sexton Co., Chicago, Ill.

Chairman—Gas Refrigerator Division: Louis Ruthenburg, President, Servel Inc., Evansville, Ind.

Chairman—Gas Valve Division: R. L. O'Brien, Detroit Brass & Malleable Works, Detroit, Michigan

Chairman—Gas Water Heater Division: J. R. Lavelle, John Wood Mfg. Co., Conshohocken, Pa.

Chairman—Hotel, Restaurant & Commercial Gas Equipment Division: Stanley E. Little, Vice President, American Stove Company, Cleveland, Ohio

Chairman—House Heating and Air Conditioning Equipment Division: A. A. Marks, Richmond Radiator Co., Uniontown, Pa.

Chairman—Industrial Gas Equipment Division: E. W. Mears, Mears-Kane-Ofeldt, Philadelphia, Pa.

Chairman—Meter & Regulator Division: Norton McKean, President, American Meter Company, Albany, New York

Chairman—Thermostatic Control & Accessories Division: W. T. Bentley, President, Titan Valve and Mfg. Co., Cleveland, Ohio

Chairman—Advisory Council: F. H. Adams, Surface Combustion Division, Toledo, Ohio

Chairman—Policy Committee: W. T. Rasch, Security Manufacturing Company, Kansas City, Mo.

Chairman—P.C.G.A. Manufacturers Section: A. H. Sutton, President, Mission Water Heater Co., Los Angeles, Calif.

Vice Chairman—P.C.G.A. Manufacturers Section: E. T. Howard, Gen. Sales Mgr., General Controls Co., Glendale, California

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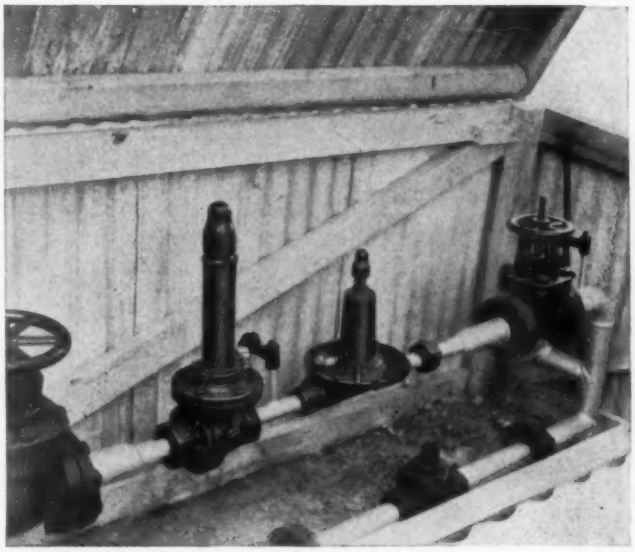

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Safety Engineers of Pacific Coast Discuss Accident Prevention

THAT accident prevention by gas utility firms is definitely an operating function and the approach to all safety programs should be predicated on that premise was the theme which high-lighted discussion at a meeting of the Technical Section of the Pacific Coast Gas Association at Los Angeles May 10 and 11.

The conference was the final one in the Technical Section Series to be conducted by the association during the present fiscal year. Held in the auditorium of the Southern California Gas Co., Los Angeles, the two-day conference was attended by 52 operating and safety executives representing eight utilities in California, Oregon and Washington. Firms represented were Southern California Gas Co. and Southern Counties Gas Co., Los Angeles; San Diego Gas & Electric Co.; Portland Gas & Coke Co., Portland, Ore.; Pacific Gas & Electric Co., San Francisco; Pacific Lighting Corp.; Seattle Gas Co., Seattle, Wash.; Coast Counties Gas Co., Santa Cruz, Calif., and Southern California Edison Co., Los Angeles.

In his introductory remarks, E. E. Ellis, safety engineer of the Southern California Gas Co., under whose sponsorship the program was presented, traced the history of safety programs in industry back to 1912. He cited the significant fact that in the early days the emphasis was placed on "First Aid," with the primary aim being to provide help after an accident had already taken place. Today, Ellis pointed out, the chief concern of the safety staffs of large industrial concerns is to prevent accidents from happening by means of safety regulations and equipment and educational programs designed to minimize the causes of accident so that First Aid will not be required.

Positive Approach to Prevention

The Southern California Gas Co. official stated that accident prevention has a very definite place in the gas utility business. He stressed that such work has now become a management problem, and warned that if the companies do not concern themselves with proper safety measures and accident prevention programs, " . . . one of these days their workers will take it upon themselves to force the issue."

K. B. Anderson, safety engineer of the Coast Counties Gas Co., Santa Cruz, Calif., sounded the keynote of the conference at the May 10 morning session in a talk entitled "Why Accident Prevention is an Operating Man's Responsibility and How He Can Assume It."

"Planning and training for accident prevention are definitely the functions of operating men," Anderson said.

He cited the work of soldiers who desensitize land mines in battle areas as one of the outstanding examples of proper training and planning to prevent accidents.

Recommending the positive approach to accident prevention, Anderson stated that that does not mean merely to tell workers how they should act to prevent injuring themselves, but also to show them by means of positive facts and illustrations, and then to follow up the demonstrations with check-backs to ascertain to what extent the advice has been heeded.

Anderson declared that the biggest handicap safety directors are obliged to overcome is the sentiment among workers that because a thing has been done a certain way for years, there is no reason for changing.

Albert Turner, safety engineer, Southern California Gas Co., disclosed that one of the problems that firm had to contend with in attempting to obtain a proper analysis of accident trends and causes was reluctance on the part of injured workers to attribute the blame to foremen and supervisors, even if those parties were responsible.

New Form Places Blame

In outlining to the conference how his company had solved this problem, Turner declared that the matter of placing responsibility was approached from the standpoint that the person who logically should know the most about an accident is the supervisor directly in charge of the work the victim was engaged in when the accident took place.

Turner exhibited a new type of accident report sheet which the Southern California Gas Co. devised some months ago in order to obtain reports which would reflect more accurately the responsibility for accidents.

The feature of the report blank, it was shown, is that it places upon the first and second-line supervisors of the injured employee the onus of assigning responsibility for the accident and the basic causes of it.

Turner explained that the immediate supervisor of the injured employee (e.g., gang foreman, unit supervisor, domestic sales supervisor, plant foreman, etc.) is required to fill out one side of the form. After listing routine statistics in the form of name, date, address, etc., the immediate supervisor is asked to state what type of machine or tool caused the injury; whether safety appliances or regulations had been provided; and whether the accident was due to the fact that the injured party failed to use safety appliances or observed regulations.

Upon completion of the front side of the report of the injury, the form must be passed on to the immediate supervisor of the individual who filled out the first page of the report blank (district street foreman, section supervisor, assistant superintendent etc.), by whom an investigation of the accident is to be made and a report written.

This party, Turner explained, is required to determine the basic cause of the accident and assign responsibility for it under one of four categories: Personal action or characteristic of the employee; supervisory responsibility; unsafe equipment or materials; unsafe working conditions.

Under each of those headings are listed a series of from seven to 13 reasons why the accident could have occurred. The person making out this part of the report is obliged to select and check the one which, in his opinion, was responsible for the accident. The report form also contains space for a detailed statement as to why that basic cause was selected, what immediate action was taken to prevent recurrence, and suggestions for standard practice to avoid accidents of a similar nature.

Turner reported that prior to the introduction of this type of accident report form in the fall of 1943, only a small portion of the company's injured workmen had the timerity to attribute responsibility for their injury to their supervisors or foremen. The records in May, 1944, showed, Turner disclosed, that about 50% of the responsibility was then being attributed to supervisors and 50% to the employees' negligence, which is regarded as a more accurate and equitable distribution of responsibility than the ratio obtained before the new forms were introduced.

SOUTHERN CALIFORNIA GAS COMPANY

Report of Injury to Employee Occurring in Course of Employment

FOR OFFICE USE ONLY
Case No.

INSTRUCTIONS: Every injury requiring medical attention, or which involves loss of time, must be reported on this form. All SERIOUS injuries must be reported immediately by telephone to the General Agent's Office. Written reports of all injuries should be forwarded within twenty-four hours.

Section I — Time and Place

Location of plant or place where accident occurred _____ Employer's Premises Yes ____ No ____

Department _____ Division _____

Date of Injury _____ Hour of Day _____ A.M. _____ P.M. Give last date worked _____

Name of Foreman or immediate Supervisor _____ Title or Classification of immediate Supervisor _____

When did Foreman or immediate Supervisor first know of injury? _____

Names and addresses of witnesses: _____

Section II — Injured Person

Name of Injured _____ Color or Race _____ Nationality _____ Speak English _____

Home Address: No. and St. _____ City or Town _____

Check (V) Married ____ Single ____ Widow ____ Widower ____ No. of Dependents ____ Divorced ____ Male ____ Female ____

Date of Birth _____ Date Employed By Company _____ Right or left handed _____

Classification when injured _____ Was work being performed within employee's classification _____

Wages: $ _____ per _____ No. hours employee works per day _____ No. days per week _____

Section III — Cause of Injury

Machine, tool or thing causing injury _____ Kind of power (hand, air, electrical, steam, etc.) _____

Part of machine on which accident occurred _____ Was safety appliance or regulation provided _____

Was it in use at time _____ Was accident caused by injured's failure to use safety appliance or observe safety regulation _____

Describe fully how accident occurred, and state what injured was doing when injured _____

Section IV — Nature of Injury

State in your own words the nature of the injury and the exact part of the body injured _____

Report prepared by _____ Title _____

Department _____ Division _____ Date _____ 194__

IMPORTANT: This side of Personal Injury Report is to be prepared by the injured employee's immediate supervisor, e.g., Gang Foreman, Unit Supervisor, Domestic Sales Supervisor, District Service Sub-Foreman, Plant Foreman, etc. It is essential that all questions be answered fully, in order that the General Agent's Office may complete required Industrial Accident Commission Reports. Upon completion of this, the front side of the Report of Injury, the Report of Injury should be passed on to the immediate supervisor of the individual making out the first page of the report, e.g., District Street Foreman, Section Supervisor, Sales Supervisor, District Service Foreman, Assistant Superintendent, etc.

Report of Investigation of Injury

The District Foreman, Section Supervisor, Sales Supervisor, District Service Foreman, Assistant Superintendent or other supervisor of similar rank under whom the injured employee worked, shall investigate the accident at once and complete this side of the form.

1. **Basic Cause of Accident.** (Check only ONE of the following Basic Causes.)

A.—*Personal Action or Characteristic of Employee*

- ☐ 1. Haste or short cuts
- ☐ 2. Equipment such as jacks, skids, hoists, etc., provided but not used.
- ☐ 3. Goggles, respirators, masks, etc., provided but not used.
- ☐ 4. Improper or unsafe tool or equipment used.
- ☐ 5. Horseplay or fooling.
- ☐ 6. Instructions or rules disregarded.
- ☐ 7. Inattention.
- ☐ 8. Inexperience.
- ☐ 9. Physical condition of employee.
- ☐ 10. Improper body position.
- ☐ 11. Improper method of doing work.
- ☐ 12. Action of fellow employee.
- ☐ 13. Improper clothing.

B.—*Supervisory Responsibilities*

- ☐ 1. No instructions given.
- ☐ 2. Incomplete instructions.
- ☐ 3. Rules, standards or instructions not enforced.
- ☐ 4. Personal safety devices not provided on job. (Goggles, Safety Belts, Masks, Respirators, etc.)
- ☐ 5. Correct or safe tools or equipment not provided.
- ☐ 6. Inadequate inspection of equipment or jobs.
- ☐ 7. Improper method of doing work.
- ☐ 8. Poor job planning.
- ☐ 9. Too much rush.

C.—*Unsafe Equipment or Materials*

- ☐ 1. Ineffectively guarded equipment.
- ☐ 2. Unguarded equipment.
- ☐ 3. Defective materials.
- ☐ 4. Defective tools.
- ☐ 5. Defective equipment (not motor vehicles).
- ☐ 6. Defective motor vehicle equipment.
- ☐ 7. Unsafe equipment or material of contractor, non-employee or customer.

D.—*Unsafe Conditions*

- ☐ 1. Poor light.
- ☐ 2. Poor ventilation.
- ☐ 3. Bad housekeeping.
- ☐ 4. Improper piling or storing.
- ☐ 5. Tools, equipment or materials scattered around.
- ☐ 6. Slippery floors or other places.
- ☐ 7. Unsafe condition caused by contractor, non-employee or customer.

2. **State in detail why you selected the above Basic Cause.**

3. **What immediate action did you take to prevent a recurrence and what do you suggest as Standard Practice to avoid accidents of a similar nature?**
(NOTE: Such answers as "Nothing," "More precaution," "Be more careful," are not acceptable.)

REPORT PREPARED BY _____ DATE _____ 194__ NOTED BY _____ (DIV. MGR., DUPT. OR DEPT. HEAD) DATE _____ 194__

CLASSIFICATION _____

DO NOT USE SPACE BELOW THIS LINE

PREVIOUS LOST TIME (INJURIES SUSTAINED BY THIS EMPLOYEE. IF NONE, SO STATE)

DATE	DAYS LOST	DATE	DAYS LOST	DATE	DAYS LOST

FOR SAFETY ENGINEER'S USE ONLY

TYPE OF ACCIDENT
NATURE OF WORK
ACCIDENT PREVENTION ANALYSIS
INJURY

Deplores Swivel-Chair Safety Experts

That Division Safety Committees composed solely of executives, or district foremen and supervisors, are not the most effective means of instilling safety ideas among workers was the contention of E. C. Hunt, San Francisco, safety engineer of the Pacific Gas & Electric Co.

Mr. Hunt decried what he referred to as "swivel-chair experts," and revealed that P.G.E.C. had obtained its best results from committees composed entirely of field workers from which all executives were excluded.

"Workers are inclined to speak up more freely at sessions at which the 'boss' is not present," Hunt pointed out.

He explained that P.G.E.C.'s greatest success with divisional safety meetings has been obtained since the company began the practice of calling in from 25 to 30 men who work in actual field operations and have them sit down for discussions of safety measures and accident prevention ideas applicable to their particular departments of work.

"We have gotten more definite, concrete suggestions out of these workers' meetings than from all the executive and swivel-chair conferences put together," Hunt stated.

W. M. Henderson, assistant safety superintendent, Southern California Gas Co., presented a talk on "Built-In Safety," in which he showed how safety can be tailored into the job during the planning stage. Henderson presented a series of illuminated slides depicting various types of "built-in" safety measures employed by Southern California Gas Co. He offered, also a statistical table which indicated the progressive, year-to-year decline in accidents to street department employees, as follows: 1940, 46 accidents; 1941, 27; 1942, 32; 1943, 27.

Other talks presented at the two-day conference included:

"Organization and Use of Safety Committees in Accident Prevention," by William Wykes, Seattle Gas Co.; "Visual Training and Accident Prevention," by E. C. Hunt; "The Safety Organization, Its Function and How It Should Be Utilized to Help the Operating Supervisor," by J. E. Smith; "Some Typical Operating Hazards and How they Were Overcome," by D. E. Buyers, Portland Gas & Coke Co.; and "How a Safety Program is Handled by an Operating Supervisor," by Allan Johnson, Southern California Gas Co.

RECENT COURT DECISIONS *Affecting Gas Utilities*

Important Review Gas Suits

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

VERY INFREQUENTLY the higher courts render several decisions during the course of a few weeks which, in one way or another, concern a majority of our readers. Many of these modern decisions reverse older law. In this article the most outstanding of such higher court decisions are reviewed.

Gas Intrastate Sales

All intrastate sales of gas, and other commodities bear state sales tax payments.

For instance, in Arkansas Louisiana Gas Company v. Hardin, 176 S. W. (2d) 903, reported March, 1944, it was disclosed that Arkansas authorities sued the Arkansas Louisana Gas Company for $97,125 and alleged that it had for many years been engaged in the transportation and sale of natural gas in the State of Arkansas and had failed and refused to collect the two percent sales tax.

The gas company officials contended that it was not liable for failure to pay the state sale taxes because the gas sales involved interstate commerce.

The testimony showed that the gas company purchased its gas from outside the state from where it was transported through a pipe line in a continuous stream into Arkansas, and sold and delivered there to industrial customers under written contracts made in the state from which the gas was transported. The higher court held the gas company liable for payment of the taxes, and said:

"The sales made by appellant (gas company) to its industrial customers were not transactions in interstate commerce, and were such sales as were subject to the payment of the two percent Arkansas sales tax."

Gas Rates Vary

Modern higher courts hold that there is no rule by which to determine whether the conditions of gas service are similar or dissimilar. It is a question of fact to be determined from the testimony in each case, and the burden of proof is on the complaining party who demands low rates enjoyed by others.

For illustration, in Ford v. Reo Grande Valley Gas Company, 174 S. W. (2d) 479, reported December, 1943, suit was filed by a laundry owner to recover an alleged overcharge for gas purchased to operate the plant. The laundry owner proved that he was given a commercial rate graduated from 30 cents to 20 cents per thousand cubic feet, according to his maximum monthly consumption, but that six other consumers engaged in canning fruit were given an industrial rate of 17 cents per thousand cubic feet per month. In other words, the laundry owner contended that since the gas company had declared processors and canners of fruits and vegetables an industrial class and had promulgated a low rate for them, he was entitled to the same rate and since he was charged a higher rate he should recover the difference as an overcharge.

It is interesting to observe that the higher court refused to hold in favor of the laundry owner, and said:

"The laundry operated all the year, whereas the canning plants ran only about an average of six months each year. Hence, the meters at the laundry were used continuously and had to be checked each week, while those at the canning plants could be taken down at the close of the season and reworked. Obviously, that made the cost of service to the laundry greater than that to the canning plants."

When Franchise Is Forfeited

It is a well-settled rule that forfeitures of franchises are not favored by modern courts. Moreover, in states where no law limits the duration of a franchise its time may be unlimited.

For illustration, in State, Missouri Public Service Corporation, 174 S. W. (2d) 871, reported September, 1944, where a city granted a non-exclusive franchise for furnishing gas and electricity to a corporation, not specifying a period of duration. After many years suit was filed against the corporation to exclude it from all rights, privileges and franchises of furnishing light and power within the city, and "from all rights, privileges and franchises of occupying the streets, avenues and alleys of the city with its poles, wires and other equipment." The higher court refused to hold against the corporation, and said:

"There being 'no limitation in the general law of the state, nor charter of the city, as to duration of franchises for public utilities in the streets, the grant of an easement for that purpose, not specifying a period of duration, is in perpetuity'."

Also, see State McAllister v. Cupples Station, 223 S. W. 75, where a corporation acquired in 1896 a limited, non-exclusive franchise under a city ordinance. Seventeen years later it extended its service to several new areas that it had not theretofore served. Four years thereafter a proceeding was filed. In denying ouster, the court said:

"We do not think it a necessary conclusion that, because a franchise holder did not operate in all districts in which it was authorized to operate, it thereby lost all authority to operate in such unoccupied districts."

For variations of the modern law see State v. Development Company,

152 S. W. 67. There an ordinance of a city authorized a nonexclusive franchise to any party who took certain steps accepting the terms of an ordinance. The Aloe Company took such steps, and for a few years provided limited service. It then abandoned the enterprise, selling its contracts and equipment, and for 22 years it rendered no service whatever under its franchise on its books as an asset. After this had been the situation for 22 years a new corporation was formed. It took an assignment of the Aloe Company's franchise, and filed certain applications for permits with the city authorities. This court held that the city was entitled to forfeit the franchise, saying:

"It must be held both on authority and reason that where the grant of a franchise is upon the implied condition that it shall be used for the public benefit, and there is a continued breach of the condition, whether because of misuser or nonuser, a cause for forfeiture exists."

Court Upholds Commission

Modern higher courts consistently hold that opinions rendered by commissions will not be reversed unless the testimony is strongly in favor of the complaining party.

For example, in Jacksonville Gas Company v. Bronson, 15 So. (2d) 754, reported February, 1944, it was disclosed that a gas company employe was injured within the course of his employment and received compensation for a period of time, recognized by his employer as covering his disabilities. The employe was of the opinion that he was further disabled applied for a hearing which was granted.

The commissioner heard the testimony for both parties and decided that the testimony preponderated adversely to the employe and refused to grant additional compensation. The higher court approved the verdict and said that in cases of this nature a court will reverse a commission's decision *only* where it is clearly apparent that the commission was in error.

Overpayment Collectable

Considerable discussion has arisen in the past over the answer to the legal question, as follows: Is a consumer of gas entitled to recover overpayment not made under protest? The question is relatively unimportant when applied to ordinary consumers of gas, but when affecting municipalities over a period of years the amount involved may be larg and important.

For illustration, in City of Sagina v. Consumers Power Company, 8 N. W. (2d) 149, the court records show that a city ordinance authorized a gas company to shut off gas from premises of persons failing to pay charges therefor. Also, the Public Service Commission's order authorizes utility companies to discontinue service to consumers failing to pay bills within 10 days after expiration of the discount period.

A city paid for gas supplied by a gas company and later sued the gas company to recover overpayments. The latter contended that the city could not recover because the overpayments were not made under protest. However, the higher court held in favor of the city, saying:

"Under such an arrangement the parties were not dealing upon equal terms. The latent threat that the gas company would shut off the gas was constantly before the consumer. Therefore, payment was not made upon a mere demand for money without power of enforcement except by an action at law. It follows that to deny recovery would mean depriving consumers of gas until by the institution of legal proceedings they could establish the fact that the charges were illegal. This would be a 'kind of execution in advance of judgment'."

Obviously, this law, also, is applicable to ordinary consumers of gas.

Girl Employe Was Married

It is well settled that marriage is encouraged by the law, and therefore every effort to restrain or discourage marriage by contract, condition, limitation, or otherwise, is invalid and void.

On the other hand, a modern higher court has held that a contract may be void which prohibits marriage where the contract looks only to the interest of the person to be benefited.

For example, in Huiet, Com'r of Labor Dept., et al. v. Atlanta Gas Light Company, 28 S. E. (2d) 83, reported January, 1944, it was shown that a gas company official advised a woman employe that the company was employing only single girls and so long as she remained single she may continue in the employment. Several months later the girl was married. The official did not give the girl a discharge slip. However, the girl recognized that she was no longer in the employ of the gas company and registered for unemployment compensation benefits at the unemployment office. Although the lower court allowed the compensation the higher court reversed the verdict, and said:

"Though contracts in restraint of marriage are void, the intention to impose a penalty for remarriage must be manifest and exclusive. In the instant case the rule was a reasonable one, and the restraint (if any) was incidental to the primary lawful purpose of the contract. Thus it was not contrary to public policy. The rule being valid, its effect is obvious. The employe knowingly and voluntarily did the thing which would discontinue her relationship with the employer. Thus the woman employe here is disqualified and ineligible to receive unemployment compensation under the provision of the Georgia unemployment compensation act as amended."

Also, see Grimison v. Board of Education of City of Clay Center, 136 Kan. 511.

Company Violates Price Law

In all litigations involving violation of minimum price laws, the courts endeavor to look through obscurity and determine whether the "letter" of the law was violated.

For illustration, in People v. Pay, 143 Pac. (2d) 762, reported January, 1944, it was shown that a state law prohibits selling merchandise below cost "for the purpose of injuring competitors or destroying competition," and prohibits "loss leaders" when it "diverts trade from or otherwise injures competitors."

A suit was filed against a corporation whose officials defended their acts and admitted that some such sales were below either their invoice or replacement cost, and some such sales were below such cost plus their cost of doing business of 8.3%. They contended that such sales were made in a good faith attempt to meet the legal prices of their competitors, and that in many instances the sale of "loss leaders" were made to meet competition, and were used as a valid form of advertising.

Notwithstanding these arguments the lower court held the company guilty of violating the law, and said:

"It is, of course, true that all sales below cost are not prohibited. Only those sales accompanied by the requisite intent are prohibited. . . ."

On the other hand, the higher court plainly stated that the company was not guilty of violating the law when selling "loss leaders" for advertising purposes.

Wisconsin Utilities Association Holds One Day War Conference

THE Wisconsin Utilities Association held a one day War Conference at the Pfister Hotel, Milwaukee, May 19th. The gas division and the electric division held separate meetings in the forenoon, and in the afternoon a combined general session was held.

In the gas technical division of the gas section was presented a description of the first successful national experiment in the storage of butane gas in a conventional gas holder, based upon an outstanding example of persistency and ingenuity by the Milwaukee Gas Light Co. in developing added capacity by mixing liquefied petroleum gas and liquefied petroleum-air gases with coke oven and water gas.

E. C. Brenner, chief engineer of the company presented the paper. He described two projects to meet increasing demands under conditions of wartime economy. One was the underfiring of Solvay type ovens with substitute fuel, releasing 3,500,000 cubic feet of additional gas per day. The other was the production of butane air gas to supplement mixtures of coke oven and water gas providing additional 4,000,000 cubic feet per day.

The success of the experiment was made possible by the innovation in storage which had not previously been done in America. The additional capacity and change in the mixture of gas have resulted in improved service.

Limitations of space prevent a more detailed presentation of Brenner's first report of the experimentations and successful operations. He describes results of underfiring Solvay ovens, test procedures, the novel development of butane storage in the conventional holder, present procedure followed, results of customer service tests and suggests further investigation to determine if the introduction of butane has a decidedly beneficial effect on the performance of appliances in service.

G. H. Head, Wisconsin Gas & Electric Co., presented a paper on wartime gas problems dealing specifically with production, purification, gum problems, lost and unaccounted for control methods. Particular interest was aroused in Head's description of the construction of concrete boxes and the effect of the new purifier on customer utilization. Extracts from his paper follow:

"We have no figures available comparing the cost of concrete with all steel boxes. If steel had been used, the present construction, partially below grade, could not have been used due to corrosion of steel plates below ground in cinder fill. Only time will tell, but we believe the life of the concrete box should be considerably longer than for steel.

"The new boxes were placed in operation late in December, 1943, and the benefits of the additional oxide purification became evident almost immediately, although the period of only about four months to date is rather short to determine the full degree of improvement in some of our previous customer and distribution problems.

"As yet we have made no tests for actual gum content of the gas before and after passing through the last three new oxide boxes, but I believe that much of the benefits of a cleaner gas results from the purely mechanical filtering action of the oxide beds in addition to their chemical effect of reducing sulphur. Possibly this filtering effect is of more importance than we realize even though we have a Cottrell tar precipitator."

Amos H. Abbott, Northern States Power Co., read a paper on Experience In Vaporizing Methanol To Reduce Gas Freeze-Up Pressure Calls. He detailed results in freeze-up complaints and pressure calls, and in conclusion said:

"There are probably other and better ways of reducing freeze-up pressure calls, but in our smaller systems where freeze-up calls have been quite numerous and extensive, we think this emergency treatment has been fairly effective and not too expensive."

Representatives of other companies added results of their experiences.

W. H. Ganley, Falley Petroleum Co., presented a paper on the enrichment of blue gas in carburetted gas manufacture, stating that war conditions are changing so fast statements made today may not be valid tomorrow. He said:

"The gas enriching agent most readily available in this area at the present writing is straight run Residual Fuel Oil. It is anticipated that the gravity scale of prices now in effect on residual fuels will be changed in the near future by the O.P.A. It is expected that lower prices will prevail on high gravity fuels (18-28 API) which will tend toward making residuals the more economical product to use although it may increase the supply of gas oils, as refiners might begin cutting lower gravity fuels in order to realize the best return from their crude through-put. From the above it would seem well that whenever possible gas plants equip themselves so that they are in a position to use Residual oils having fairly high conradson carbon content as well as gas oils."

Paul Hoffman, chairman of the Customer Service Committee, reported decreases in calls but increases in costs per call. Frank Wilkinson said many increased calls are caused by plastic range handles. He argued that repair costs and merchandising costs should not be charged against distribution costs. G. A. Anderson said good results were being obtained by the Wisconsin Public Service Corp. in making greater use of the telephone on service calls.

E. C. Hemes described results of extended meter test periods. Meter manufacturers urged the new Section officers to carry on the standardization agreed upon in Wisconsin to other states and regional areas.

New officers of the Technical Division, Gas Section, are C. A. Altenbern, Burlington, Wisconsin Southern Gas Co., chairman, and G. H. Head, Racine, Wisconsin Gas & Electric Co., vice chairman.

Rheem Appoints Nugent General Sales Mgr.

Rheem Manufacturing Company, makers of gas water heaters, floor furnaces and tank equipment have appointed Frank J. Nugent as general manager of sales of their Appliance Division. Mr. Nugent will also be in charge of all sales personnel through the company's main office at 570 Lexington Avenue, New York, 22, N. Y.

Rohrer Appointment With B. C. Elec. Rly. Co.

E. H. Rohrer has been appointed gas engineer by B. C. Electric Railway Company at Vancouver, B. C. Mr. Rohrer will succeed John Keillor, who recently retired from this post after 27 years with the company. Mr. Rohrer comes from the Montreal Coke and Manufacturing Company and will assume full charge of the operations of the B. C. Electric Company's gas department.

Gild Holds Seventh Birthday Dinner

PHOTO OF HEAD TABLE WITH BIRTHDAY CAKE

Left to right Joe A. Mulcare, Senior Warden; C. E. Bartlett, Mayor; Joseph A. Messenger, Alderman; J. H. Moore, Former Clerk; Arnold E. Petersen, former N. Y. Warden; Wm. S. Guitteau, First and Immediate Past Mayor.

The Gild of Ancient Supplers held its seventh birthday dinner May 1st at the Benjamin Franklin Hotel, Philadelphia, Pa. Thirty Supplers attended the dinner, which was in charge of John B. Wynne, Warden of the Delaware and Chesapeake area.

Of the original organizers of the Gild, six were present, as appear in cut, which also shows the birthday cake with its seven candles. Of the other pioneers of the Gild, F. R. Fairchild, S. T. McKenzie, W. J. Stanton, W. J. Foster and H. L. Whitelaw are still active in the gas industry but were unable to be present. W. W. Penn, J. C. Clark, W. G. Gribbel and J. J. Bonner, are not now active in the industry. M. N. Bailey, A. Kleinand and W. P. Hutchinson are deceased.

Book Reviews

The Oxy-Acetylene Handbook. Published by Linde Air Products Co., 30 East 42nd Street, New York 17, N. Y. 575 pages, 6" x 9¼", durably bound. Price $1.50.

This Handbook is a complete, comprehensive, and authoritative textbook on basic oxy-acetylene welding and cutting procedures.

It covers the entire range of the oxy-acetylene process, giving clear, easy-to-follow instructions for handling all the common commercial metals, together with simple explanations of the fundamental principles of the various methods of depositing and controlling molten metal. Considerable space is devoted to an explanation of the operating principles of oxy-acetylene equipment and instructions for its care and maintenance.

In addition to its use as a textbook for teaching students how to weld and cut, or teaching experienced operators how to improve their welding and cutting, it will also serve as a guide and authoritative reference book for plant management people, engineers, designers, superintendents and foremen in shops where oxy-acetylene welding and cutting is used or might be used as either a production or a maintenance tool.

Heating, Ventilating, Air Conditioning Guide, 1944 Edition. Published by American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York 10, N. Y. 22nd edition, 850 pages 6" x 9". Price $5.00.

While much of the information in this Guide, representing well established practice has been carried over from previous issues, the tables of heat transmission coefficients have been completely revised and rearranged and some changes made in fundamentals of heat transfer.

Information and tabular data on stratification of air in rooms is revised and new chapters on chimneys and draft calculations as well as on pipe, fittings and welding have been added. Other sections have received the usual revision.

Supplementing the Guide is a catalog data section of some 300 pages and a roll of membership of the Society as of January 15th, 1944.

Macomber Assigned New Duties by OWU

Alexander Macomber, chief of the Office of War Utilities' Manufactured Gas Division, took over its Fuel and Allocations Division week of May 6th, replacing William A. Lyons, who returned to his peacetime job as controller of the New York Pennsylvania New Jersey properties of the Associated Gas & Electric System.

Mr. Macomber will remain as chief of the Manufactured Gas Division.

Roper Receives Third "E" Award

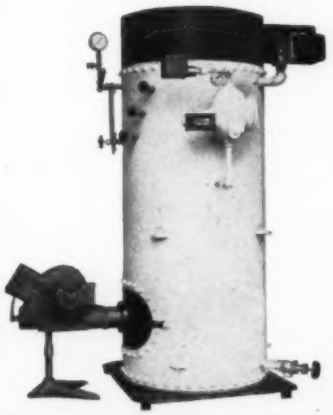
For the third time the Geo. D. Roper Corporation, Rockford, Illinois has been signally honored by the Army and Navy for continued high standards of war production.

On March 27, 1943, the Roper organization received the original Army-Navy Production Award. This was followed by the first White Star awarded September 25, 1943 and now by the second White Star award, notice of which has just been received.

Peace time manufacturer of Roper gas ranges and Roper Pumps for all purposes, since the start of the war the Roper organization has concentrated its manufacturing activities upon 75 MM and 3" projectiles, Aircraft landing gear, pumps for almost every type of Naval vessel afloat, pumps for the Maritime Commission, foundry castings for many essential war purposes and other important war products.

Since January 1, 1944, Roper has also manufactured a gas range built under authority of the War Production Board and sold in step with the O.P.A. stove rationing program.

LATTNER
GAS — OIL BOILER
3 HP to 35 HP.



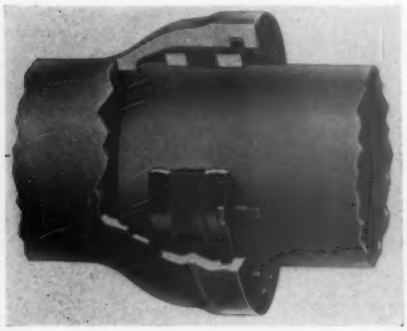
Burns natural gas or regular furnace oils with equal efficiency using same burner.

P. M. Lattner Mfg. Company
Cedar Rapids, Iowa

New Equipment and Appliances

Bellmaster Joint

In the Bellmaster Joint, Style 85, for cast iron pipe, Dresser Manufacturing Company, Bradford, Pa., have developed a mechanical joint of unusual efficiency. It is fast in application, flexible and tight and is already in service on some lines.



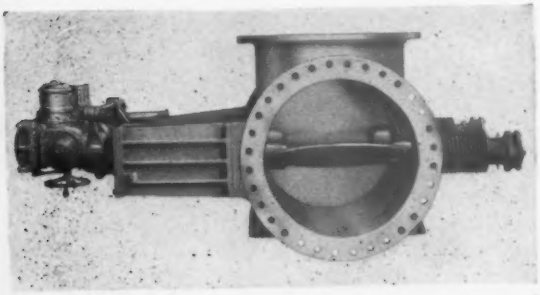
Bellmaster Joint, 85

The inner circumference of Bellmaster pipe is grooved to accommodate the locking lugs of the joint as shown in the illustration. It is factory assembled, shipped and installed in one piece and requires only one tool for installation — a Bellmaster wrench.

Sizes available are for 3, 4, 6, 8, 10, 12 and 16 inch pipe. Full details and tests are described in Bulletin 441 A.

Three-Way Valve

The simplified design and quick action of the modern butterfly valve have been applied to a three-way valve type No. 604 (patent applied for). It is designed for quick interchange and mixing service and for all pressure from 15 to 900 psi. Adapted to manual control as well as power operation and elevated temperatures.



R-S Three-way Valve

The weight of the electric motor operated unit is 8500 lbs. Dual finned, lubricated stuffing boxes are provided for elevated temperature and high working pressure. Developed by R-S Products Corporation, Wayne Junction, Philadelphia 44, Pa.

Paving Breaker

The Syntron Company, Homer City, Pa., announce a new style, completely self-contained, Gasoline Hammer Paving Breaker type of demolition tool.

Self-contained Paving Breaker

This Hammer is comparable in power to the larger-sized compressed air Paving Breakers — —weighs 96 pounds—is arranged for easy operation by one man— and uses moil points, narrow chisels, gads, wide chisels, frost wedges, clay spades, backfill tamping tools, asphalt cutters, sheathing drivers or ground rod driving tools, etc., all with 1⅛"x6" shanks.

Throttle control of the blow permits placing the tool on the spot desired to be worked, without jumping around.

With a solid star drill, and using water to flush the cuttings out of the hole, the Hammer will drill rock to a depth of 30".

The major advantage of this tool is that it is self-contained and does not require an air compressor, air hose and fittings, ignition battery, ignition coil and heavy cable, or any other source of power or accessory. Bulletin on request.

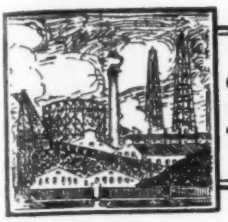
Oil Bath Tempering and Drawing Furnace

A compact but heavy duty oil bath furnace, designated Model 128, has been announced by the Stanwood Corporation, 4819 W. Cortland St., Chicago (39) Illinois, fabricators of baskets, trays, fixtures, retorts and containers for heat treating, quenching, pickling and washing. These furnaces rapidly and effectively temper or draw small parts to relieve stresses set up by quenching or to bring about a change in grain structure.

Oil Bath Furnace

Gas fired, these units are heated by immersion tubes for maximum thermal efficiency and quick pick-up. The company's super-power burners are used and are completely enclosed, being readily accessible through the door in the front of the unit.

Thermostatic control assures accurate temperatures. Indicating regulator mounted on instrument panel is within easy reach. Bulletin 44 with details on request.



News of the Gas Industry

Pacific Coast Association Records Sales Growth

Lack of manpower notwithstanding and despite the fact that the war emergency made it impossible to provide many needed facilities, the gas industry on the Pacific Coast experienced a gratifyingly satisfactory year in 1943 and ". . . served more gas to more customers at a lower average rate than ever before in its history."

This optimistic picture of the west coast gas industry during the second war year was presented in a report of 1943 activities prepared by Clifford Johnstone, managing director of the Pacific Coast Gas Association, and issued on April 7.

Mr. Johnstone pointed out in the report that for the Pacific Coast as a whole the customer increase in 1943 was 3.0%, the sales increase 12.5% and the increase in gross revenues 6.6%. All five of the States embraced within the territory of the PCGA, as well as British Columbia in Canada, contributed to the gain in customers. Arizona alone showed a drop in sales and gross revenues. While that state experienced a decrease in sales and revenues, it showed a marked increase in domestic and commercial classifications. The industrial load in Arizona, which declined 5.9% from the 1942 figure, had a material effect toward influencing the state's total sales, Mr. Johnstone reported.

The adjoining table, issued by the Pacific Coast Gas Association, presents a statistical picture of how well the gas industry fared on the Pacific Coast in 1943.

"While much of the current gas business comes from the war effort," Mr. Johnstone stated in summarizing his conclusions, "a review of the record shows that the Pacific Coast gas industry is experiencing a healthy, normal growth. The number of customers has increased each year since 1932, and likewise sales and revenue, with the single exception of 1938 when there was practically no winter heating season. During this period the average use per customer has steadily increased and the average price of gas per thousand decreased."

CONVENTION CALENDAR

June

5-7 *Advertising Federation of America,* Annual Meeting Hotel Sherman, Chicago.

6-7 *American Gas Association Joint Production and Chemical Committee Conference.* Hotel Pennsylvania, New York, N. Y.

6-8 *Public Utilities Advertising Association,* Annual Meeting Palmer House, Chicago.

6-8 *Southwestern Gas Measurement Short Course,* University of Oklahoma, Norman, Okla.

8 *Canadian Gas Association's 37th Annual Convention,* Royal Connaught Hotel, Hamilton, Ontario.

8-9 *Midwest Industrial Gas Sales Council, Peoria, Ill.*

27 *Conference on the Operation of Public Utility Motor Vehicles,* Bellevue-Stratford Hotel, Philadelphia, Pa.

GAS COMPANY STATISTICS FOR 1943
Showing Per Cent Changes Over 1942

	Customers Dec. 31	% Change	Sales	% Change	Gross Revenue	% Change
Arizona-Nevada ..	38,003	+4.0	24,101,179	— 4.4	6,305,411	— 7.0
British Columbia..	58,877	+2.6	2,279,223	+21.8	2,213,303	+18.7
California	2,041,759	+3.0	302,540,104	+14.1	107,456,487	+ 6.9
Oregon	102,900	+3.1	6,057,662	+14.6	4,478,249	+13.8
Washington	72,824	+3.6	4,326,348	+ 7.9	3,991,834	+ 9.7
Total	2,314,363	+3.0	339,304,516	+12.5	124,445,284	+ 6.6

Northern Liberties Gas Company Celebrates Century of Gas Service

The Northern Liberties Gas Company, Philadelphia's oldest continuously-operated gas company, celebrated its One Hundredth Anniversary on April 13th, at its office at 3rd and Brown Streets, which was festively decorated for the occasion. Before the serving of luncheon the guests were greeted by Messrs. John Frederick Lewis, President of the Company, and Harold L. Zeamer, Superintendent.

Mr. Lewis, after extending a hearty welcome to the guests, spoke of the beginning of the Company and its progress through the years. Excerpts from his remarks follow:

The Northern Liberties Gas Company was actually started on March 15th, 1838, under an ordinance of the "Inhabitants of the Incorporated District of the Northern Liberties in Board of Commissioners assembled" with authority to open books for the subscription of $50 par stock totaling $100,000.

In five months a plant with a capacity of 63,000 cubic feet per day was completed, with mains laid on Second and Third Streets—250 meters had been imported from England. . . .

In March, 1839, the Commissioners authorized the issuance of an additional $100,000 of stock, inasmuch as applications had been received for service on Fourth, Fifth and Sixth Streets.

Gas was actually put into use January, 1839.

In America, only Boston, New York and Baltimore used gas for street lighting. In Philadelphia, sperm oil was being used for lighting, and strong opposition developed against the public use of gas on the basis that gas was dangerous and expensive, being about three times the cost of sperm oil.

Enraged citizens contended that the gas lamps might go out in a strong wind and the leakage kill the bird life of the city.

In March, 1835, an ordinance was enacted creating the Philadelphia Gas Works, a municipal enterprise which was subsequently leased to The United Gas Improvement Company in 1897.

On April 13th, 1844, the Northern Liberties Gas Company became a corporation. In July, 1900, the Company entered into a contract with The United Gas Improvement Company, under which The U. G. I. was to operate for the next 99 years.

Two Twin City Utility Firms Win National Security Awards

National Security Awards, won for maintaining "superior standards of protection and security," were given to both the Minneapolis Gas Light Company and the Northern States Power Company at a joint presentation ceremony in Minneapolis on May 19th.

The National Security Award is granted to industrial plants by the National Office of Civilian Defense "where superior standards of protection and security are maintained for personnel, service, and facilities, against hazards which might hinder the war effort."

Major General Clarence H. Danielson, commanding general of the Seventh Service Command in Omaha, Nebraska, presented the joint awards in a ceremony at which Governor Edward J. Thye was the principal speaker.

Notifications to both companies, telling them they had merited the award, said:

"The Minneapolis Gas Light Company and the Northern States Power Company have each been selected for this award, because of outstanding accomplishments in

establishing protective measures against air attack, sabotage, fire, and avoidable accidents."

The awards were received in the name of their respective companies by H. K. Wrench of the Minneapolis Gas Light Company, and T. D. Crocker of Northern States Power Company.

G. O. House is manager of the St. Paul Division of Northern States Power Company.

CP Promotional Budget Stepped Up 150 Per Cent for Next Six Months

More than five million dollars have been spent in the past three years in national magazine and newspaper advertising to promote post-war sales of gas appliances, Lloyd C. Ginn, Chairman of the CP Gas Range Manufacturers Executive Committee, announced at the CP Manufacturers Annual Meeting in Chicago on May 9. Of this amount, four million was spent by manufacturers and gas utilities to promote the CP Gas Range. At the same time, Mr. Ginn announced a 150 per cent increase in CP manufacturers' advertising and promotional budget for the last six months of 1944.

Increases in the CP promotional budget were made to allow wider coverage of architects and builders, furniture, hardware, department store and the other appliance dealers who sold 2,300,000 gas ranges valued at approximately 140 million dollars in 1942.

By handling gas ranges built to CP specifications, dealers will be able to meet price competition with a quality product that has ready consumer acceptance and to capitalize on the growing emphasis on grade labeling and the increasing consumer demand for higher quality products built to recognized uniform standards.

One of Canada's Outstanding Gas Engineers Retires

After 50 years in the gas business, 27 of them with the British Columbia Electric Railway Co., Ltd., John Keillor, Gas Engineer, retired from that company on March 15th last. Born in Scotland, he believed he was actually "born to the Gas," his birthplace being the house on the corner of the lot on which his dad's gas company was situated. Having started life with gas in his nostrils, he has never been content away from it until the current urge to retire took hold.

Mary E. Dillon Elected Board of Education Pres.

Miss Mary E. Dillon, president of the Brooklyn Borough Gas Company, was elected president of the Board of Education of New York on May 9th, succeeding Ellsworth B. Buck, who voluntarily retired after heading the school board for two terms. Miss Dillon is the first woman to hold the unsalaried post. Her term is for one year.

Mary E. Dillon

In nominating Miss Dillon Mr. Buck said: "Her broad accomplishments embrace administrative director of a great business and a record of outstanding civic service. In a remarkably short space of time she has acquired masterly knowledge of school affairs and school finance. I have full confidence that, under her able presidency, education in New York will carry on to higher achievement."

Miss Dillon has been active in the business, civic and charitable life of Brooklyn for many years and is said to be the only woman in the nation to head a major utility company. In private life she is Mrs. Henry Farber, wife of a retired wholesale coal dealer.

Post-War Employment

Col. Willard F. Rockwell has confirmed the existence of the reported "Rockwell Plan," described by his confidants as a revolutionary program designed to ensure post-war employment after contract terminations and during plant reconversion.

Verification of the plan's existence came during Rockwell's speech before members of the Gas Meter Association of Florida and Georgia, held May 20th at Miami Beach, Fla.

"The plan, which will ensure a continuation of employment for those now engaged in war production, and more important, ensure re-employment for returning military personnel, is now in the hands of labor and industry leaders for study," Rockwell stated.

"The program in its present form provides a formula by which all industry now engaged in war production can continue to maintain their employees during the chaotic period of reconversion. It also provides a medium to guarantee that either compensation or jobs will await each returning soldier or sailor who is an ex-employee of these plants.

"Further, the program suggests a means to prevent the post-war collapse of certain industries through indiscriminate dumping of a war-swollen surplus of goods and materials. Admittedly, fifty billion dollars' worth of surplus goods now overhangs the heads of labor and industry. I venture to suggest that the correct figure should or will be 75 to 80 billion."

The author of the "Rockwell Plan" vigorously criticized lack of government planning to handle post-war reconversion unemployment, stating that it was universally accepted that millions would become jobless the moment war production ceased.

"Labor and management have equal stakes in the termination of war contracts," Rockwell declared. "The government can quibble industry into bankruptcy and cause unemployment by audit unless practical business men agree upon some plan to avoid such dangers. The plan may not offer the best possible solution, but at the minimum it will stimulate thinking and possibly generate action to solve these problems."

According to present plans, associates of Rockwell stated, the industrialist will outline the complete Rockwell Plan within the next two weeks.

SUPERIOR GAS METERS

For Sound Values and Continuous Operating Economy

Meters for Domestic and Industrial Use. All Sizes 5B to 60C.
Wet Test and Demonstration Meters — Diaphragms —
Service Cleaners — Provers — Meter Repairs

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Dresser Manufacturing Co. Elects Vice Presidents

H. N. Mallon, President of the Dresser Manufacturing Company, recently announced election of three vice presidents of the company following a recent meeting of the Board of Directors.

J. B. O'Connor has been elected Executive Vice President. Arthur R. Weis and Lyle C. Harvey have been elected Vice Presidents.

J. B. O'CONNOR
Executive Vice President of the Dresser Manufacturing Company.

Mr. O'Connor has been a Director of Dresser Manufacturing Company since August 23, 1938. He is also Vice President and General Sales Manager of Clark Brothers; Chairman of the Board of the Pacific Pump Works; and President of Bovaird and Seyfang, all subsidiaries of Dresser Manufacturing Company.

A native of Augusta, Georgia, Mr. O'Connor attended the University of Geogia and served in the United States Army in the first World War. In 1919, he joined the Prairie Oil Company, and in 1923 became Sales Manager of the Socony Vacuum Oil Company. He joined Clark Brothers in 1927 as General Sales Manager and became a Vice President in 1935. Mr. O'Connor is also a Director of the Gulf Plains Corporation of Corpus Christi, Texas. He is a member of the Veterans of Foreign Wars.

Mr. Weis is President of the Pacific Pump Works of Huntington Park, California, a Dresser subsidiary.

Mr. Harvey is President of the Bryant Heater Company of Cleveland, also a subsidiary.

C. P. Clark, President of Clark Brothers, who is already a Vice President of Dresser Manufacturing Company, will continue to serve in that capacity.

Northwestern Utilities Records Healthy Expansion

Northwestern Utilities Limited, Edmonton, Alta., has reported a net profit of $332,524, or $3.28 a common share, in 1943. This compared with $269,711, or $2.54 a share in 1942.

Current assets were listed at $547,445 and current liabilities $178,072 against $387,943 and $434,129, respectively, the end of 1942.

The report said that owing to the fear of a coal shortage the company had an increased demand for gas services and had expanded the gas gathering and transmission systems.

Production of Coke and By-products from Coal-Gas Retorts in 1943

The total production of gas-house coke in the United States in 1943 amounted to 862,104 net tons, valued at $6,745,791, according to the Bureau of Mines, United States Department of the Interior. Total production in 1943 decreased 30,448 tons when compared with that in 1942 and included 364,745 tons from horizontal retorts and 497,359 tons from vertical retorts, semi-inclined retorts, and miniature horizontal gas ovens. Although coke breeze is not separated from the large coke at many coal-gas plants, the amount produced at works actually separating breeze amounted to 123,192 tons, a decrease of 8,783 tons (6.7 per cent) from the 1942 total.

The quantity of bituminous coal used in the manufacture of gas-house coke decreased 85,396 tons (5.6 per cent) when compared with 1942 and totaled 1,436,216 tons. The average cost of the coal per ton delivered at coal-gas plants was $6.18 in 1943. The combined annual coal carbonizing capacity of all retorts in existence was 1,964,156 tons. Of the 3,037 retorts in existence at the end of the year, 2,491 were in operation and the rate of production for the year was 43.9 per cent of the estimated rated capacity of the industry.

Research and Technologic Work on Coal

Intensive investigations undertaken by the Bureau of Mines to assist in the production and utilization of coal and to increase safety in the mineral industries are described in a new publication, "Annual Report of Research and Technologic Work on Coal, Fiscal Year 1943."

The publication, prepared under the direction of Dr. A. C. Fieldner, Chief of the Bureau's Fuels and Explosives Service, is of interest to all producers and commercial users of coal.

Included are topics devoted to the properties and composition of American coals, research projects in the Bureau's experimental coal mine at Bruceton, Pa., and other mines, use of Diesel engines in mines, coal production and use of energy in Western States, analysis of the use of electricity in coal mines, explosions and use of explosives in coal mining, experiments in the use of hard pitch from coal to extinguish magnesium fires, and the prevention of spontaneous mine fires in sub-bituminous coal.

Other discussions in the report concern the preparation, storage, utilization, carbonization, hydrogenation, and liquefaction of coal. The Bureau's Fuel Efficiency Campaign is discussed in detail.

A copy of the report may be obtained from the Bureau of Mines, Department of the Interior, Washington 25, D. C.

Gas Exhausters and Boosters. Bulletin 32-33-B-12, covering Rotary Positive Gas Exhausters and Boosters, has been issued by Roots-Connersville Blower Corp. of Connersville, Ind. Sixteen pages and cover, two colors, profusely illustrated.

Much space is given to illustrations of typical installations and applications, as well as cuts of units adapted to higher speed operation. Two pages are devoted to special applications and compound units, and the booklet concludes with a discussion of some regulatory devices and a table of standard sizes.

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Payne Furnace Co. Ceremony and Banquet

One hundred forty-one men and women with an aggregate of over 950 years of service with Payne Furnace & Supply Company, Beverly Hills, California, were honored recently in a ceremony following a banquet, when the Board of Directors presented service pins in recognition of long association with the firm.

D. W. Payne, president of the company, who for some months has been confined to his home by illness, celebrated his recovery as honored guest of the directors, one of whom, the Hon. Arthur L. Erb, mayor of Beverly Hills, presented him with a pin denoting over 25 years' service. ("Payneheat," in July, 1944, will pass its 30-year milestone.)

E. L. Payne, vice-president and general manager, son of the founder, was second in point of years' service, and pointed out that, of the 141 members of the Service Club, 95 had been with the Company five years or more, and forty, 10 years or more.

Eligibles among the 125 Payne employees now in the armed services were also honored, and it was announced that their time, while on war leave, is being credited towards Service Club membership.

For more than two years, "Payneheat" has concentrated on war production.

Mayor Arthur L. Erb of Beverly Hills, Calif., a "Payneheat" director, presents service pin to D. W. Payne, president and founder, as E. L. Payne, vice president and general manager, looks on.

New General Controls' Branches In Boston and Cleveland

In line with plans for strengthening field distribution and service facilities, General Controls Co., Glendale, California, recently occupied new branch office quarters at 687 Boylston St., Boston 6, Mass., and at 1505 Broadway, Cleveland, Ohio.

L. E. Wetzel William Marsh

General Controls' Boston Branch is under the direction of Branch Manager William Marsh. A native New Englander, born in Manchester, N. H., Marsh has had 20 years' experience in the automatic controls industry. He has been instrumental in the development of numerous controls for both the gas field and sectional control applications.

L. E. (Rusty) Wetzel, Cleveland Branch Manager, is a native of that city, a graduate of Purdue and John Huntington Institute Technical College where he majored in air conditioning, heating and ventilating engineering. His field experience covers 16 years in the refrigeration and general installation fields.

General Controls Awarded Army-Navy "E"

At impressive and colorful ceremonies March 29, 1944, officials, supervisors and employees of General Controls Co., Glendale, California, were awarded the Army-Navy "E" for excellence in producing automatic controls for aircraft and ordnance.

Major Howard H. Adams, District Public Relations Officer, A.A.F., Material Command, was master of ceremonies. Main address and presentation were made by Major Justin C. Gunnison, AAF, 12th Air Force, who has to his credit a total of eighty bombing missions in the Mediterranean theatre. W. A. Ray, President and Chief Engineer of the company, accepted the Award pledging continued effort and performance on the part of all 800 men and women of General Controls.

Quebec Hydro-Electric Commission Takes Over Montreal Company

The Province of Quebec is now in the electricity and gas business, and Montreal consumers received their supply of both as of April 15th through the Quebec Hydro-Electric Commission.

A five-man commission, headed by Senator T. D. Bouchard, took over the Montreal Light, Heat and Power Consolidated, its subsidiary the Beauharnois Power Company, and the Montreal Power Company.

The staff of the M. L. H. & P. became automatically employees of the new commission, and their work went on unaffected, except for the telephone operators who had to remember to say "Hydro Quebec" instead of "Montreal Power."

Gas Burning Diesels. Bulletin 106 issued by Nordberg Manufacturing Co., Milwaukee 7, Wis., describes and illustrates several installations of gas burning diesels for city service and industrial uses. Where occasion demands, these units can be quickly converted to oil burning. A schematic diagram shows arrangement of gas details and piping.

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For All Gas Appliances

S-80

Z-21

Today, the *fuel economy* of Barber Burners is appreciated as never before. Our factory production is now partially devoted to vital parts for combat equipment. Subject to Federal restrictions, Barber Burners and Regulators are still available. Plan NOW for big post-war appliance business. Barber engineers will cooperate on your design problems.

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FOR ECONOMICAL GAS PURIFICATION

Today's increased demands on the Gas Industry from both the production and home fronts has created many new problems in Gas Purification and sulphur corrosion.

In hundreds of plants throughout the country, Connelly Iron Sponge has not only helped decrease costly sulphur corrosion, but has also materially improved gas purification and lowered the operating and maintenance costs.

If you have a problem in gas purification, it will pay you to consult Connelly. A thorough analysis of your problem and unbiased recommendations will be made without obligation.

CONNELLY IRON SPONGE & GOVERNOR CO.
CHICAGO, ILL.—ELIZABETH, N. J.

Servel Issues Plan Book on Air Conditioning

The gas air conditioning department of Servel Inc. released this week to cooperating gas utility companies a sales promotional plan book on the Servel All-Year Gas Air Conditioner entitled, "The Next Step in Post-War Action," it was announced by Geo. S. Jones, Jr., Servel's vice-president in charge of sales.

The new plan book which covers all wartime phases of preparation for postwar action on the All-Year Gas Air Conditioner was sent to more than 300 gas utility companies.

Introducing the product with a thorough history, the plan book carries on to the phases of the postwar program of market development that can be accomplished now.

"The time has come," John K. Knighton, sales manager of Servel's Gas Air Conditioning Division said, "for a market development program that does not yet require production or individual sales solicitation.

"If it were not for the war, and we did have a product to sell we still would have to cultivate the market. That is why it is essential that a program be launched now to educate Mr. and Mrs. American Homeowner on the subject of gas air conditioning."

Servel's new promotional plan book is another step in the broad program of postwar planning and action in which the company has been engaged for the past year.

This program which has been spearheaded by the new All-Year Gas Air Conditioner is aimed at the same basic objectives as the plans of the Committee for Economic Development which is espousing the cause of increased postwar employment.

The plan book covers such points as third party contacts and how to make them; building of acceptance among commercial prospects; preselling the ultimate domestic consumer; and building postwar interest by using publicity and advertising media.

This program which is designed for gas companies' local use is being released in conjunction with a national advertising campaign by Servel in leading national magazines and trade journals.

Pittsburgh Equitable Meter Advances Arens and Smith

Colonel W. F. Rockwell, President of the Pittsburgh Equitable Meter Company, recently announced that F. C. Arens had been appointed District Manager of the Boston

F. C. Arens

Office, and that Richard H. Smith had been placed in charge of water meter sales for the New England territory.

Mr. Arens has had extensive experience to qualify him for managerial position. Following graduation from the University of Pittsburgh in 1931, he joined the firm and was assigned to production work in the liquid meter division, advancing to become Production Manager.

For the past five years, Arens has been attached to the sales staff, covering gas utility and industrial accounts in the New England area.

Mr. Smith has a wide background of experience in the water works field. A native of Hamilton, Massachusetts, he joined the old National Meter Company in 1922, and was assigned the territory comprising the three northern New England States; Maine, New Hampshire, and Vermont. Following the consolidation of the Pittsburgh Equitable Meter Company and the National Meter Company in 1941, he was given greater responsibilities and territorial coverage in Massachusetts and Connecticut.

R. H. Smith

Independent Pneumatic Tool Company Makes Appointments

Edward N. Haas has been appointed Works Manager of the Aurora, Illinois plant of Independent Pneumatic Tool Company succeeding W. H. Brewer who has been named General Factory Manager, it was announced recently by Neil C. Hurley, Jr., President of the Company.

John P. Bank succeeds Mr. Haas as Assistant Works Manager.

Mr. Haas has been Assistant Works Manager of the plant since 1943, and has been connected with the plant since 1911.

Mr. Brewer has been Works Manager since 1940, when he succeeded the late Frank B. Hamerly, a former vice-president of the company.

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High Pressure
RANGE:
Cu. Ft. of Gas Per Hour—100-10,000 M
Diameter of Pipe—Inches ¼-30
Difference in Absolute Pressure—Lbs. per sq. in., 1-500
Sum of Absolute Pressures—Lbs. per sq. in., 2000-20
Specific Gravity—1.5-.35
Length of Pipe—Feet 100-5000
Length of Pipe—Miles 1-250

Low Pressure
RANGE:
Cu. Ft. of Gas Per Hour—10 to 500 M
Pipe Diameter—¼" to 48" (including standard and actual weight up to 4")
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Length of Pipe—Feet 30-30,000
Specific Gravity—1.5-.35
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IRON HYDROXIDE

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A.G.A. Post-War Planning Sub-Committee Report

The first report of the American Gas Association Post-War Planning Subcommittee on Engineering and Economic Phases of the Gas Industry, which has just been released, covers a study of the Economics of Sales of Manufactured Gas. The report proper was prepared by the 1943 Market and Economic Research Committee, Hall M. Henry, Chairman. A similar study is now under way by the 1944 Market and Economic Research Committee covering Economics of Sales of Natural Gas.

The report throws some light on a number of important factors bearing on the economics of selling. In all there are six major elements on which data has been obtained and mention is made of a seventh covered in a previous report under the title "Market Studies." These are:

1. Evaluating New Business Efforts.
2. Revenue Life of Appliances.
3. Salesman Power.
4. Minimum New Business Expense to Hold Revenues.
5. Effects of Home Service on Revenues.
6. Study of Aggressive vs. Passive New Business Efforts. Market Studies (Covered by separate report Market and Economic Research Committee—1942).

The first section shows the amount of M.C.F. sales and revenues being obtained by *certain* companies through the sale of individual appliances and provides a chart from which *these companies* (and similarly situated companies) can determine how many appliance units of a given type would have to be sold to bring about a desired increase in M.C.F. sales or revenues per customer per year. Data is also given showing that the effectiveness of the New Business effort for a given year cannot be gauged by the gain in M.C.F. sales or revenues as shown in the operating report for that year but that some other method should be employed and a suggested method is given.

The second section gives several case studies of the number of years that different appliances were found to produce revenues. It points out it is important to know for *how many years* a certain appliance will produce revenues as this fact plus the amount of revenue produced yearly will help determine how much a company can afford to spend on New Business to sell a particular appliance. For the companies studied it was found that each of the major appliances (automatic water heaters, refrigerators, house heating) would produce revenue for a minimum of ten years.

The third section of the report deals with Salesman Power. It points out the relation of Salesman Power to Sales results under a number of conditions. Some of the factors are:

The effect of the number of customers assigned a salesman on results—The number of appliances sold per Salesman year—The amount of revenue added per Salesman year—The New Business costs per dollar of revenue added—The compensation being paid salesmen—and many other relationships of interest and value.

Another factor of interest that is covered in the fourth section is the Minimum New Business Expense to Hold Revenues. This section clearly shows that in every gas company there is a certain *base cost* of carrying on so-called New Business operations, which should be deducted from the total New Business Expense in order to determine the amount being spent to *acquire New Revenues.*

The study on the Effects of Home Service is covered in the fifth section. Here is presented a number of case studies showing the gains or losses in revenues from customers contacted by a Home Service girl vs. those not contacted. This section is interesting because (for the companies studied) it indicates that Home Service contacts increased *revenues* and in addition to their intangible value may well occupy a place alongside of appliance selling as a means for increasing revenues.

The sixth and last section of the report covers a study of the effects of Aggressive New Business (as measured by the dollars spent per customer per year on New Business) vs. Passive New Business Efforts. The data presented covers a period of six years and shows the relation of the amount spent per year per customer on New Business vs. the gains made in M.C.F. sales, gross revenues and net operating revenues.

The Committee believes the gas companies will find this report on the Economics of Sales of Manufactured Gas of sufficient value to justify a thorough study and analysis of their own situations and a comparison with the data given. Certainly one of our major problems is that of selling gas and a study of the economics of selling in our own situations, together with a discussion of this problem, should prove helpful in developing more effective and efficient sales practices. We commend this report to you for your careful consideration.

Girl Meter Testers Serve Consolidated Edison Co.

Not only are girls employed as gas meter readers in some sections of the system of the Consolidated Edison Company of New York, but they have shown their ability as gas meter testers as well.

For years, one of the jobs in gas meter repair has been the exclusive domain of women—this is in the making of diaphragms. There are also girls who make the final check tests after gas meters have been repaired and reassembled by the male forces.

Many of the girls so employed have been recruited from clerical positions with the company.

Selas Opens Chicago Office

The Selas Corporation of America, Philadelphia, Pa. has established a Chicago office, located at 916 S. Michigan Ave. It will carry a complete emergency stock, permanent service personnel and sales-engineering representation.

DANIEL W. PAYNE

Daniel W. Payne, 77, president and board chairman of Payne Furnace & Supply Co., Inc., Beverly Hills, California, died May 26th at his home in Cheviot Hills. Death followed a lingering illness of several years, resulting in partial retirement, during which his son, El Roy L. Payne, has been active head of the business as vice-president and general manager.

Born in Malone, Franklin County, New York, in 1867, Mr. Payne migrated with his father four years later to a farm near Seward, Nebraska. As a young man he entered the sheet metal and furnace business, and upon coming to California in 1909, established the Payne Furnace & Supply Co., then located on North Los Angeles Street. After several expansions, the Company moved in 1925 to a new, modern plant at its present site in Beverly Hills, and under the joint management of father and son, became, before the war, America's largest exclusive gas furnace manufacturer, with installations coast to coast. For more than two years, however, its expanded facilities have been devoted exclusively to war production.

LUKE C. BRADLEY

Luke C. Bradley, former president of the Consolidated Electric and Gas Company and vice-president of Stone & Webster corporation, both of New York, died at Lafayette, Ind., on May 12th. He was sixty-nine years old.

Mr. Bradley, who retired four years ago because of ill health, joined the Stone & Webster organization, public utility engineers, in 1901. He aided in the operation of utilities in Seattle, Galveston and Houston, Tex., and Richmond, Va. In 1925 and 1926 he was president of the Virginia Electric and Power Company, Richmond, and had also been with the J. G. White & Co. and the American and Foreign Power Company.

ADOLPH MUELLER

Adolph Mueller, chairman of the board of Mueller Manufacturing Company, makers of plumbing supplies at Decatur, Ill., died May 14th at his Miami Beach home. He was seventy-eight years old.

The company was founded by his grandfather, and his son, William, will carry on as president. The company has branch plants in Los Angeles, Chattanooga and Sarnia, Ontario.

Servel Inc. Conducts Air Conditioning Schools

During the month of April gas air conditioning schools were held in the field in five western states by J. K. Knighton, manager of gas air conditioning sales for Servel Inc., and John Gilbreath, assistant sales manager of gas air conditioning, with a total attendance of 233 people.

The nine schools were held in Denver, Colo.; Salt Lake City, Utah; Portland, Ore.; Concord, Sacramento, Fresno, Los Angeles, and San Diego, Calif.; and Phoenix, Ariz.

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Manufacturer of Gas, Electric and Oil Burning Water Heaters, Domestic Heating Equipment, Tanks, etc., selling to Jobbing accounts, desires Sales Managers. Minimum five years' experience Home Appliance Field. Write complete personal data and experiences. Address Box 134, c/o American Gas Journal, 53 Park Place, New York 7, N. Y.

FOR SALE

The following items in good usable condition:

One 7' generator shell made in 1940 by Semet-Solvay Company.

One design #4 size #6 Sturtevant blower with type B6 steam driven turbine all on one base.

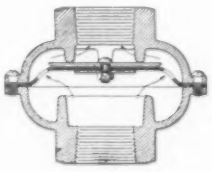
One design #4 size #5 Sturtevant blower with type B5 steam driven turbine on separate bases.

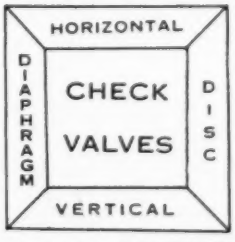
Apply to The Newport Gas Light Company, Newport, Rhode Island.

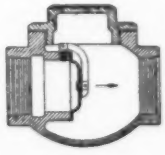
Rund Appoints North-West Distributor

Alvin R. Bravender, Portland, Ore., has been appointed by Rund Manufacturing Co., Pittsburgh, Pa., distributor for the northwest territory of the complete line of Rund water heaters. Mr. Bravender represents several gas appliance manufacturers in that territory.

Pressure Controls for Gas and Air







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The Reliable Shut-Off for Street Mains

THE GOODMAN STOPPER

Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

Nearly a half century of service to the Gas Industry.

Safety Gas Main Stopper Co.
523 Atlantic Avenue, Brooklyn, New York

New Pipe Line

(Continued from page 23)

governmental agencies which have created new problems for gas firms, the two Los Angeles firms and Pacific Lighting Corp. have concentrated all gas dispatching activity at 810 South Flower St., Los Angeles.

This has been done, it was announced, to facilitate and simplify gas handling procedure because the effect of the increased demand for gas by war plants and the need for meeting government restrictive regulations has been to make curtailment adjustments more difficult, and decrease and reduce the flexibility of the gas supply.

Previously the three firms had conducted four separate headquarters for gas dispatching (1700 Santa Fe Ave., Los Angeles, Glendale, Ventura and Taft), which, under the new plan are now based at 810 S. Flower St., and have established a 24-hour overall co-ordination of gas dispatching by the three companies.

A. G. A. E. M. Meeting

(Continued from page 36)

largely through the initiative and energy of individuals, utility companies and manufacturers."

Henry H. Morse, Chairman Industry Publicity Committee presented a paper titled "Without Profit We Perish," Mr. Morse said:

"Whatever success price control has attained may be credited to the cooperation of business which voluntarily complied with regulations that could not otherwise have been enforced.

"Business has demonstrated its willingness to forego its present rights to assure a postwar world of free enterprise, limitless opportunity and the perpetuation of the democratic way of life." However, he pointed out, in setting up an office for the control of prices (OPA), it was not the intention of Congress to have OPA control profits.

"Early in its career," Mr. Morse commented, "OPA promised that competitive positions would be preserved. The original intent of Congress was clear, and the subsequent actions of Congress have made its position even more clear.

"However . . . OPA has been so absorbed in its important job of holding down prices that it has been difficult for it to view the problem as a whole. Any virtue carried to excess becomes a vice, and when holding the line is more important than building constructively, we get mandates and interpretations that are detrimental rather than helpful.

"I am convinced that our only hope of assuring an opportunity to business to return successfully to the production of civilian goods is a basic change in the Price Control Act —a change that will clearly delimit the powers of the stabilization director and the powers of OPA . . . a law that will say, 'so far and no farther,' and will protect the American manufacturer and businessman from unreasonable, impetuous, star-chamber decisions of some authority who may not be wholly in sympathy with the American way of life."

Principles and Practice of Flow Meter Engineering, By L. K. Spink, Published by The Foxboro Company, Foxboro, Mass. Price $3.

This handbook, widely accepted as a standard text and guide, has just appeared in a new and enlarged edition, the sixth since the book was first published, in 1930. New and advanced phases of the subject are covered for the first time, bringing the book up to date and adding to its usefulness. The author, L. K. Spink, is a member of the working committee which developed the latest AGA orifice meter tables, a member of the ASME Fluid Meter Research Committee, and of the joint AGA and ASME Pulsation Research Committee. As an engineer who has devoted many years to the study of flow measurement, he is extraordinarily qualified to handle the subject.

The book of 232 pages is illustrated with photographs, diagrams and curves, and contains all the tables and formulae needed for any ordinary liquid or gas flow computation. In the Liquid Section, methods for determining compressibility factors of liquids at temperatures near the critical, a new and more accurate method of correlating temperature expansion data on petroleum oils, a quick method of correcting for tap locations, and a short-cut method of correcting for viscosity, are some of the features.

The Gas Section suggests several methods of correcting for viscosity effects. Theoretical discussion, as well as working equations and tables for moisture and super-compressibility, are presented. A new and simple type of intermediate pressure device which eliminates the by-passing of gas is described. The latest findings on the measurement of pulsating gas flows are covered.

Coke for Domestic Use

Administrator Harold L. Ickes announced on May 20th the appointment of an advisory committee of twelve representatives of the coke industry to assist and advise with the Solid Fuels Administration for War in the production and distribution of this fuel for domestic uses. The action was taken as a result of the WPB order delegating to SFA the control of movement of coke from producers to any destination, wholesaler or dealer, so long as it is intended for domestic consumption. Names of the appointees are:

A. M. Beebee, manager, Gas Department, Rochester Gas & Electric Corporation, Rochester, N. Y.

W. H. Earle, president, Philadelphia Coke Co., Philadelphia, Pa.

O. C. Gericke, president, Domestic Coke Corporation, Fairmont, W. Va.

J. A. B. Lovett, president, Milwaukee Solvay Coke Co., Milwaukee, Wis.

P. H. Neal, manager, Coke By-Product Sales, Alabama By-Products Corporation, Birmingham, Ala.

Robert P. Tibolt, vice president, New England Coke Co., Boston, Mass.

Karl B. Nagler, vice president, Peoples Gas Light & Coke Company, Chicago, Ill.

S. S. Robinson, Pickands-Mather, Chicago, Ill.

David Foster, manager, Coke Sales, Semet-Solvay Company, 40 Rector Street, New York, N. Y.

Kenneth R. Hare, manager, Coke Sales, Koppers Company, Seaboard Division, Kearny, N. J.

Alfred Hirsh, vice president, Laclede Gas Light Co., St. Louis, Mo.

Howard Zeller, vice president, Jamison Coal and Coke Co., Greensburg, Pa.

War Production Board
Part 933—Copper

Freeing of frozen inventories of certain listed copper containing items of plumbing and heating equipment and building material was announced May 23rd by the War Production Board. No war use for these products in their present form can be found and their reclamation for remelting purposes is impracticable. In making the announcement, WPB officials emphasized that the use of copper and copper base alloys in the manufacture of these items remains prohibited.

Amendment of Supplementary Conservation Order M-9-c-4 now permits use of inventories of finished items listed in Paragraph (a) (5) of the order, previously frozen by its restrictions. Another change allows use of copper and copper base alloy building material, pipe or tubing when necessary to replace similar items in or on a building, from stocks now in possession of the building owner. Previously, owners were permitted to use only material in their possession on June 23, 1943, in amounts not to exceed 25 pounds for each specific repair. It is believed that there are only small stocks of these materials in the hands of owners, but the use of such as there are will make for more satisfactory repair jobs and will reduce the man-hours required to effect them.

Little Lessons In GAS PURIFICATION

Lesson No. 3

SPONGE . . . A "fluffy" material—usually wood shavings—coated with ferric oxide to form an effective purifying material for dry box purification.

In the preparation of LAVINO *ACTIVATED* SPONGE, we use selected hardwood shavings—large, tough but not too thick.

These are thoroughly disinfected by an exclusive LAVINO process to minimize formation of mold or fungi.

The shavings are coated with the justly famous LAVINO *ACTIVATED* OXIDE composed of 70% (guaranteed minimum) to 78% Fe_2O_3 and approximately 10% moisture.

In LAVINO *ACTIVATED* SPONGE, you get a really "springy, fluffing material" that doesn't crush easily; permitting free passage of the gas through the dry box.

The amount of oxide per bushel of shavings is accurately gauged to meet the conditions under which they are to be used.

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Supplied unmixed; or ready mixed in "Sponge" form.

E. J. LAVINO COMPANY

1528 Walnut St., Phila. 2, Pa.

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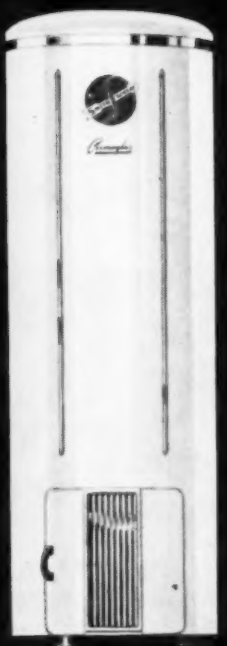

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Glass is clean. It's sanitary. It's the answer to your postwar market that will demand newer and higher standards of perfection in hot water convenience, sanitation, and cleanliness.

That's why SMITHway Automatic Gas Water Heaters are lined with glass . . . *Permaglas* . . . a smooth, lustrous, sanitary, blue glass lining permanently fused to the inside of SMITHway Tanks.

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The tank cylinder, the two heads, and the flue are individually glass lined before assembly. This permits minute inspection of *every* square inch of the glass-lined surfaces. When finally assembled by Smithwelding, the result is a strong, flawless tank that will give years of carefree service.

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Permaglas Victory Model Heaters are available in all sizes in accordance with W.P.B. limitation order L-185.

SMITHway Permaglas GLASS LINED

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Revised

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85th YEAR

AMERICAN GAS JOURNAL

JULY 1944

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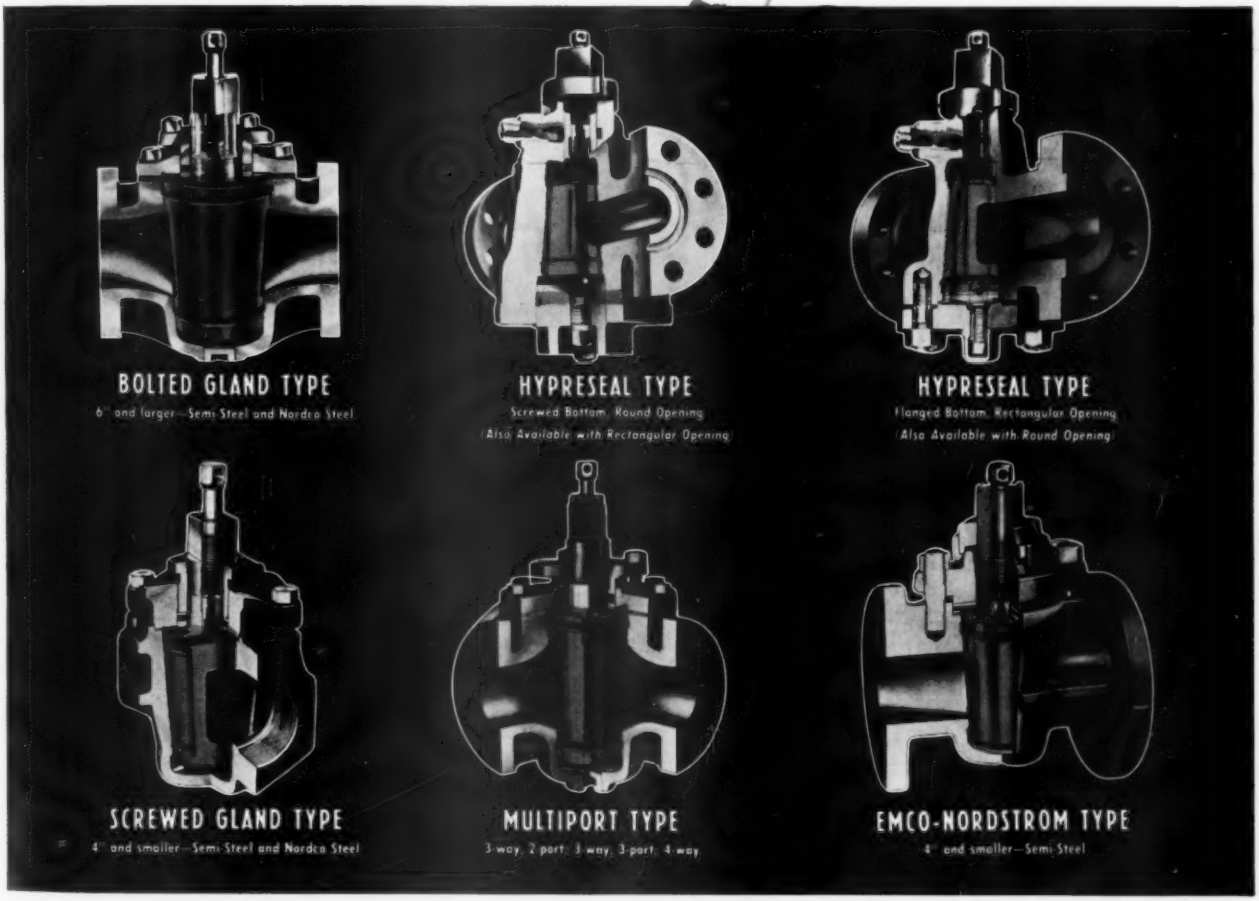
The *safest* control is the lubricated valve



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More Dirt Off the Conveyor
On Your
"CLEVELANDS"
Keep It Coming By---

. . . following these suggestions. They will assure your cashing-in, regularly, on your "CLEVELANDS" built-in ruggedness and productive performance.

- Lubricate thoroughly and regularly. When lubricating, make certain that all fittings are open and all bearings taking grease. Be sure to replace any broken or damaged fittings. It is good practice when moving or "Roading" any distance over 2 miles, to stop machine and completely lubricate crawler system.
- When making spot lubrication, check machine for loose or broken bolts. Tighten the loose bolts and replace any broken ones. Also check for broken strands in cables, worn or broken links in chain and worn brake and clutch facings, and replace at once all damaged parts.
- Check Crank Case Oil level. Fill to full mark.
- Check coolant in radiator. The level should be at or near overflow when hot. If contaminated with oil, rust or dirt, it should be changed.
- Check carefully all bucket rooters for sharpness. Renew when dull. This is exceedingly important and will pay dividends.
- Keep Conveyor belt tension as low as possible without allowing belt to slip.
- Check fan belt for tension . . . water pump and radiator for leaks.
- Examine all wiring. See that connections are tight, wires clean and not damaged.
- Operate digger with Boom Level when desired depth is reached. Never "crowd" machine ahead so that it "labors."
- Keep machine as clean as possible. Avoid danger from heavy rain or floods by moving machine from deep pits.

THE CLEVELAND TRENCHER COMPANY

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